NEW-YORK
MEDICAL AND PHYSICAL
JOURNAL.

VOL. II.] OCTOBER, NOVEMBER, AND DECEMBER. [No. IV.

ART. I. CASE *of* OSTEO SARCOMA, *in which the lower jaw was removed at the articulation on one side, after tying the Carotid Artery.* By VALENTINE MOTT, M. D. Professor of Surgery in the University of New-York.

CASE 3.—IN this case the disease was of prodigious magnitude, and the bone removed at the articulation on the right side.

Prince, a coloured man, aged eighteen years, was sent me from New-Jersey, with an *osteo-sarcomatous* tumour, embracing the lower jaw-bone from the articulation of the right side, as far as the alveolar socket, supporting the first molar tooth of the left. It presented an appearance in size equal to that of his head.

At the age of twelve an enlargement of the bone showed itself about the situation of the second molar tooth of the right side. This was at first considered a gum-bile, but it gradually increased, dislodging one after another, the teeth in its neighbourhood. When it had arrived at the size of a walnut, a lancet was put into it, but no pus or fluid issued. In 1818, when as large as a goose-egg, it was again opened, and a

small quantity of blood and matter was discharged. During its progress it was slightly painful, until some time before the operation, when it became the cause of much uneasiness. Latterly two or three small openings had taken place within the mouth, attended with a discharge of pus and ichor, by which were denuded several bony spiculæ. Externally, near the most depending part, an ulceration of the skin had taken place, from which had been discharging daily for some weeks several ounces of thin matter, and through which a probe would readily pass to some distance into the substance of the tumour.

The size of the tumour in the mouth was such as to reach completely over to the left cheek, carrying the tongue along with it, so that the latter lay flatwise between the tumour and the cheek. Deglutition was extremely difficult, and confined to liquids in small quantities. These glided along between the tongue and left cheek, when the head was very much inclined to the left side. No appearance of fauces could be observed upon opening the mouth.

From the long continuance of this disease, and the great emaciation which attended it, very little hope could be entertained from so formidable an operation as would be required for the removal of such an enormous mass of disease. Still, as I knew he would soon perish with it, and being very desirous himself to take what little chance there was, I determined to give it him, and accordingly performed the following operation.

May 15th.—At noon of this day, I tied the right carotid artery, a little above the clavicle. He bore the operation with great firmness, and appeared to be but little exhausted by it. After resting and refreshing himself with a little wine, he wished it to be continued.

An incision was now commenced at the lower edge of the *jugum temporale,* and carried in a semicircular direction over the most prominent part of the tumour, and terminated opposite the first molar tooth of the left side. Another incision of

the same form, but of less extent, below this, left a large piece of integument in which was situated the ulceration. *(See Plate.)* The flaps being dissected from the tumour, the second bicuspis tooth of the left side was extracted, and the bone sawed through at a sound part, with the saw which I had provided for the other cases.

Raising with an elevator the bone where sawed through, the diseased mass was cautiously dissected from the tongue, palate, and pharynx, until the joint upon the right side was exposed; the capsular ligament was now divided on the inner side, by which the bone was easily removed from its articulation. In the course of this part of the operation very little blood was lost, it being necessary only to apply four ligatures. This would seem to answer in the negative the query put in the former case concerning hemorrhage.

The patient was much exhausted by this operation, which, from the great extent of the disease, necessarily occupied a considerable time. His exhaustion was also to be ascribed to his previous state of debility.

After his recovery the flaps were brought together by several interrupted sutures and adhesive plaisters, and the double-headed roller being applied, he was put to bed.

The tumour weighed *twenty-two ounces avoirdupois.*

Three o'clock.—Has continued to recover gradually from the shock of the operation.

Five o'clock.—Fell into a sleep of about half an hour, and has awaked much better. Pulse regular and distinct.

Eight o'clock.—Pulse 140, and regular; skin cool and moist; signifies by a nod that he is more comfortable than he expected to be. Has spoken pretty distinctly for several things, contrary to particular orders; swallowed some water from the spout of a teapot without much difficulty. Requested two pupils to remain with him during the night.

16th.—Ten o'clock, A. M.—Slept most of the night quietly, only taking a little cold water once; skin of the natural temperature; pulse 120, and stronger than last evening. Nods

that he is much more comfortable; ordered him to take a little cold water occasionally when necessary, but to take it as seldom as possible.

Ten o'clock, P. M.—Pulse 124, and fuller; skin pleasantly warm; articulates that he is quite comfortable, and feels refreshed from his sleep; has had considerable sleep through the day, and is now sleeping very quietly. Swallows very well when the fluid is conveyed into the posterior fauces by an elastic tube and bottle. He introduces the tube himself as far as is necessary, for the purpose of swallowing without producing an action of the lips or muscles of the face. Contrary to orders, got out of bed to have an evacuation from his bowels and pass urine, which he accomplished without difficulty.

17th.—Ten o'clock, A. M.—Has had a good night; pulse 120; skin nearly natural; swallows with more difficulty, and some of the liquid passes through the wound. Removed the bandage and adjusted all the dressings anew, as they had become wet. Takes soup and chocolate as his drink; bowels have been moved again spontaneously; has a slight cough.

Nine o'clock, P. M.—Says he is as comfortable as in the morning; pulse 124; has slept a good deal in the course of the day, and says he feels much strengthened by it

18th.—Ten o'clock, A. M.—Passed a good night, and says he is quite as well as yesterday; swallows better; pulse 130.

Ten o'clock, P. M —Not as well as in the morning; pulse from 135 to 140 in a minute; coughs more frequently; respiration considerably hurried; is very restless, and feels very faint at times. In the course of this afternoon, during a very heavy thunder shower, he fainted, and appeared to be threatened with immediate dissolution; but after a short time revived, by the use of volatiles and fanning; says he feels considerable pain on the left side, which prevents him from taking a full inspiration; indeed, every breath is painful, as is evinced by the distress of his countenance. Ordered a blister to be applied immediately to the side.

19th.—Ten o'clock, A. M.—Is much relieved by the drawing of the blister; slept a good deal during the night; had one fainty turn in the course of the night. Dressed the wound this morning; more than two-thirds of the wound had united by adhesion; breathing much better; pulse from 132 to 140; cough less troublesome; swallowed some chocolate very well.

In the course of the day his cough and breathing became more troublesome, with great anxiety and restlessness; and at four o'clock in the afternoon, in one of his turns of faintness, he expired.

Not being able to attend to the dissection, I requested my friend, William Anderson, Esq., Surgeon, to examine the body the next morning; who has obligingly handed me the following particulars:

"The wound appeared healthy, and had united by adhesion through most of its course.

"*Dissection.*—Upon raising the sternum, there was found in the anterior mediastinum a massy deposit of coagulable lymph throughout its whole extent. This was of a yellowish hue, having the exact appearance of pus, but wanting its fluidity. In the cavity of the pericardium was contained a pint of yellow serum, and each lung exhibited marks of high inflammation throughout their whole extent, the surfaces of both being of a deep purple, and in some places of a florid hue. There was, however, in no place any adhesion between the lungs and the sides of the chest."

ART. II. ON *the* TEETHING *of* INFANTS, *and the Complaints to which it may give rise.* By J. TRENOR, M. D. Dentist.

THERE are few medical subjects on which greater diversity of opinion seems to exist than on the treatment of the teething of children, and particularly as to the degree of influence

it exercises over the general health at that early period. Some contend that, being a natural process, it is impossible that it should be, either directly or indirectly, the cause of disease; whilst others attribute to it all the complaints which occur at this time of life.

In answer to the first, it may be sufficient to remark, that as a general rule, whenever important functions are going forward, as is the process for the development of the teeth, the parts concerned are rendered much more susceptible, during its continuance, to disease. The cause of this, as well as its connexion with the general health, we shall have occasion hereafter to investigate. But the assertion that all the complaints of children depend upon the growth of their first set of teeth, is certainly erroneous; nevertheless, we cannot but join in opinion with Dr. Hamilton, that "the natural process of dentition is productive of pain and indisposition in by far the greater number of infants. Some infants, indeed, suffer less than others, but few enjoy perfect health while teething." It is a fact too of great notoriety, and general concern, that during the summer months, particularly in our cities, this period of infancy is marked by diseases the most violent and most fatal. Indeed, so universal is this observation, that parents always regard the second summer of their offspring with deep interest and anxiety. It therefore becomes our duty to examine the subject with minuteness, and by so doing, we shall find that the same laws which govern other parts of the economy, will be found equally applicable here, and fully sufficient to account for most of those untoward circumstances, which past experience compels us to be prepared occasionally to expect.

It has long since been remarked, that there are certain periods of life, when the system is more predisposed to disease, and more susceptible of general irritations from local impressions, than at others. Such particularly appears to be the case during infancy; that is, until all the first set of teeth have made their appearance; the cessation of the menses in

one sex, and the age of puberty in both sexes. Some others might be noticed, but as the first only claims our attention at present, we shall pass to its consideration.

We are taught both by reason and experience, that the most delicate parts of our frame are the most liable to disease, and it is equally certain that such parts are the most vascular. If therefore the whole, or any part of our system, be more vascular at one period than another, it must then be more liable to derangement; and the assertion of Fox, that "in infancy the least local irritation produces a sudden and universal sympathy throughout the whole body," will be readily admitted and easily understood, by adverting to the fact, that at this early age the fluids bear a much larger proportion to the solids, than in maturer years; from which we should expect this time of life to be more frequently attended with indisposition; and that this is the case, the observations of every day must sufficiently establish.

This, it must be confessed, is rather an unfavourable view of the tenure of our early existence; but happily those seeming defects are not without their corresponding advantages; for although vascularity of structure be attended by delicacy of function and proneness to disease, it is nevertheless endowed in an equal degree with the power of recovery from all such injurious impressions. Hendman, in his work on the management of infants, observes, that "if the infant body be more easily injured and more easily thrown into disease than the adult body, it more readily recovers and regains the healthy state." Indeed, there can be no reason why the surgical maxim, that "in proportion to the vascularity of a part, is the certainty and facility of its recovery," should not be equally applicable to the whole system, at different periods of life.

Having thus pointed out the fact, that there exists during infancy a greater predisposition to disease, we come next to show, that at this period there is likewise an exciting cause, which is unknown to after life. This is the development of

the first set of teeth, particularly during their passage through the gums.

That the observations we have to make may be the more easily understood, we shall in the first place examine anatomically the structure of the parts concerned, and the manner in which the protrusion of the teeth is accomplished; in the second, the cause of those local as well as constitutional symptoms by which it is known so frequently to be attended; and in the third place we shall close this paper by noting the symptoms, and making a few remarks on that course of treatment which such cases seem most obviously to demand.

The gums, in density of structure, are between the nature of cartilage and ligament, but are more highly organized, being capable of reproduction by granulations, and of reuniting by the first intention, as in fleshy or muscular parts. Their vessels are very numerous, as is evident from the profuse hemorrhages which sometimes take place from them under certain states of disease, as in low typhoid fevers, scurvy, &c.; and they admit freely the colouring principle of the blood, as their florid hue indicates. They are, however, more sensible in a sound state than ligament, &c. and equally painful when diseased. I say more sensible, because it would appear that even in a sound state ligament is not without sensibility; for it is asserted by Bichat, that several animals who seemed to suffer no pain from cutting, puncturing, or corroding the ligaments of their joints, experienced great agony when these parts were violently stretched or twisted, even when all the nerves which passed over the ligaments, and could have been affected by the process, were cut away. That the gums are plentifully supplied with nerves, is sufficiently apparent, both from dissection and from their great sensibility to irritants, even in a state of health. Externally they are covered by a continuation of the same membrane which lines the mouth. It thus appears that they are very vascular, are extremely sensible, and in density of structure, approach somewhat the nature of ligament.

When the teeth, in their growth, approach the gum, a process commences for their piercing it, the explanation of which authors have variously but erroneously given. The earlier writers, as the term, cutting the teeth imports, conceived it to be accomplished by their forcing a passage mechanically through the gums; and indeed this opinion was generally held until the time of Hunter, Fox, &c. the latter of whom seems to have entertained a tolerably clear idea of it, although we apprehend not perfectly correct, particularly when he states that "a passage for the teeth is opened by the process of *ulceration.*" This term implies the "process by which sores or ulcers are produced in animal bodies,"* which undoubtedly does not take place here; at least it is an extremely rare occurrence. It is probable that it was owing to the inflammation which very generally attends dentition that Mr. Fox was led to believe it to be accomplished by ulceration. But we are to recollect, that this is not a necessary consequence of inflammation; we have no evidence that it does take place during the passage of the teeth through the gums, and we know that whatever is required can be accomplished without it. As soon as the enamel is deposited, and probably before it completely hardens or crystallizes, it operates as a foreign substance, exciting into action the absorbents of the parts between it and the external skin, the first of which the membrane from which it was secreted, is absorbed. As the teeth rise, this action is constantly kept up in advance, until finally they make their appearance through the gum. We are inclined to believe, that the enamel which covers the protruding portion of the teeth more readily and certainly excited this action than the bone would, for with respect to the body, it must be considered as an extraneous substance, inasmuch as adhesion never takes place between it and the surrounding soft parts; but to the bone of the teeth up to where the enamel commenced, the gum very firmly unites. It not unfrequently

* Cooper's Surgical Dictionary, p. 74.

happens, that a considerable portion of the *dentes sapientiæ* remains covered for a long time by the gum, in consequence of there not being sufficient space to permit those teeth to come fully out; yet in no instance is the gum found adhering to the enamel. That it is in the above manner that an exit to the teeth is effected, receives pretty strong confirmation by attending to what takes place in aneurisms, and in the increase of several other tumours, to make room for which, large portions of the bony as well as fleshy parts are removed by the absorbents: ulceration forming no part of the process. But there is this difference between them, that local inflammation, more or less severe, does very generally attend the protruding of the teeth, although it is otherwise asserted, particularly by Laforgue,* who declares that his experience had established directly the reverse, not only with respect to the local inflammation, but as to the process of teething having any influence in occasioning constitutional derangement, and that in all instances where he has known the maladies of infants attributed to the teeth, it seemed merely as a mask to screen the ignorance of the practitioner as to the true cause of the child's complaints. However, opposed to this we have a weight of evidence in the number and respectability of authors that is irresistible, and the facts themselves fall under the daily notice, not only of medical gentlemen, but of the heads of every family.

Our next inquiry is into the character of this deranged state of the gums, as well as to examine in what manner those constitutional symptoms by which teething is known so frequently to be attended, are connected with or depend upon this local disease.

The violent pain experienced in diseases of the bones, ligaments, tendons, &c. is noticed by many surgical writers, and always with surprise, as in a healthy state they are supposed to be void of sensibility. Even Boyer, in his excellent work

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* Page 94—5.

on the affections of those parts, has not thought proper to offer any remarks in explanation of this seeming singularity. We are induced, however, to undertake it, because it will be found clearly to elucidate one of the points we have in view, viz. the cause of that excessive pain which inflammation of the gums at all times occasions.

When the bones become inflamed, whether the disease be seated in that delicate membrane with which their cells and cavities are lined, or in the coats of such vessels as enter into their structures, or both, no expansion, in consequence of the density of the surrounding structure, can take place; pressure in proportion to the violence of the disease, must be produced on the nerves which enter into the composition of the soft parts above alluded to, and pain, more or less acute, must undoubtedly follow. It is clear too that a given cause must here produce a much more violent effect than in parts of less solidity; and it is equally evident that the same structure must protect the nerves and other delicate parts from the influence of external violence, which will account for their apparent insensibility in a state of health. This view of the subject receives no inconsiderable support, when contrasted with the disease and treatment of paronychia, or any inflammatory affection of the soft parts bound down by tendon or tendinous fasciæ. The pain here is excruciating, but is speedily and effectually relieved by a free incision of the parts, which are thus allowed to expand, and, by emptying the vessels, the tendency to do so is diminished.

If these remarks be applied to inflammation of the gums, they will at once account for the violent sufferings it occasions, and which, unfortunately, there are few who are not more or less practically acquainted with. From their dense texture, they will not readily admit of expansion, and from their great vascularity, their tendency to do so must be much more than in bones, tendons, &c. It is probable too, that as in infancy they are more vascular than in the increase of years, so must they be, when inflamed or otherwise diseased, more painful.

This higher degree of vascularity they partake of, in early life, in common with the system at large; but as the teeth are now forming, an additional quantity of blood must necessarily circulate through those parts, for that purpose.

The cause of the pain and irritation attendant on teething is very ingeniously and plausibly, but we think erroneously, explained by Fox. "When," says he, "the formation of the tooth goes on very rapidly, and the absorption of the parts which cover it does not proceed in proportion, it becomes confined; this produces a distension of the membrane, and occasions pressure upon the pulp, nerves, and vessels, at the bottom of the socket. The tooth continues to grow, and the increased pressure which is occasioned by this augmentation, produces inflammation, and a variety of symptoms of irritation."* This is simply to say, that the resistance given to the upper part of the tooth by the gum, causes the lower part to press on the pulp, nerves, &c. here situated for its formation. Now it so happens, that if the pain and other unfavourable symptoms depended on the resistance given by the *gum* during the growth of the *first* set of teeth, much greater inconvenience would necessarily attend the advancement of the *second*, inasmuch as the latter would be opposed, not only by the gum, but by the hard bony roots of the first set; of course the resistance would be much greater, symptoms of irritation increased in the same proportion, and as the absorbents cannot remove those bony roots as quickly as they did the gum in the first instance, the pain, &c. ought to be of much longer continuance. This we know to be contrary to fact: the second set of teeth give little or no inconvenience; and why? Because the parts which oppose their progress (the roots of the first set of teeth) are, next to the enamel, the most insensible portions of the whole frame. But this is not the only objection, nor the strongest, to Fox's theory. The inflammation, &c. accompanying the first dentition, accord-

* Page 80.

ing to his view of the subject, is seated at the bottom of the socket, which, if true, would be attended with most unfortunate consequences, for it would most assuredly produce such a deranged action in the parts, as entirely to interrupt their functions, so that the growth of the teeth would not be accomplished. To this we have only to add, that the inflammation attending the teething of infants, is seated particularly on the upper part of the gum, is perceptible to the sight, and made sensible to the touch.

It is by no means unreasonable to suppose that this local irritation, from the advancement of the teeth, being once established in the mouth, it may be, and very often is, extended to the stomach and bowels; and, if so, we can hardly withhold our assent to the assertion of Moss, that "teething is very properly ranked with the number of alarming and fatal complaints that children must necessarily undergo."* Fuller, in his work on the teeth, has taken a somewhat similar view of the subject. He says that the rising of "the teeth can be at first only a local complaint, yet inflammation and pain being once implanted, the stomach and bowels are soon affected, the state of the health is visibly altered, and if proper means are not taken, the most alarming and even fatal symptoms often ensue; for from the great sympathy of parts in infancy, what was a few hours ago only a local affection, becomes a constitutional disease."†

That a disease originating in the mouth, may be, and sometimes is, extended to the stomach and bowels, from what has been termed a consent of parts, has been held by some of our best authorities. A. Hamilton, in his remarks on what is called the *thrush* of infants, observes, that "great irritation of the bowels attends this affection, insomuch that it has been alleged, on apparently just grounds, that sometimes the spots are continued, at least along the course of the gullet, down as far as the stomach."‡ To this we may add what examinations

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* Page 262. † Page 24. ‡ Page 273.

after death have repeatedly shown, that in malignant cases of the different forms of cynanche, the disease has been found to pervade the whole intestinal tube. But in the class of eruptive complaints, this consent of parts is still more unequivocally established; for in them not only the external covering of the body, but likewise the membrane lining the mouth, fauces, œsophagus, stomach, and bowels, becomes equally deranged.

We have met with no work which so clearly or more satisfactorily elucidates the ground here assumed, than that excellent production of "Bichat on the Membranes;" and indeed, it renders this view of the subject tolerably conclusive. The following, though a somewhat copious extract, is so very important, as fully to warrant its being transcribed pretty nearly entire.

He has classed the membranes according to their "identity of exterior conformation, of structure, of vital properties and functions." With these marks of discrimination, he has referred them to "two general divisions, simple and compound." The former are such as "are not connected by any direct relations of organization with the parts contiguous," and are again subdivided "into three general classes; the first comprises the mucous membranes, so named from the fluid which moistens their unconnected surface, and which is furnished by the small glands inherent in their structure. They line all the hollow organs which communicate exteriorly by different openings through the skin; such are the cavities of the mouth, the œsophagus, the stomach, the intestines, the bladder, the womb, the nasal fossæ, all the excretory ducts, &c."

"In thus considering them, not singly in each part, but at the same time in all those where they are continued, we see they are reduced to two general surfaces, of which all the others are portions. The first of these surfaces, penetrating through the mouth, the nose, and the anterior surface of the eye, 1st. lines the first and second of these cavities, extends from the former into the excretory ducts of the parotid and

submaxillary glands; from the latter into all the sinuses, forms the conjunctiva, passes into the lachrymal points, the canal, the nasal sack, and into the nose; 2d. descends into the pharynx, and there furnishes a process to the eustachian tube, then penetrates to the internal ear, and lines it as we shall see; 3d. dips into the trachea, and is spread over all the air passages; 4th. penetrates into the œsophagus and stomach; 5th. extends into the duodenum, where it furnishes two elongations; one to the hepatic apparatus, the other to the pancreatic duct and its numerous branches; 6th. is continued into the small and large intestines, and terminates at last in the anus, where it is lost in the skin."*

By this extract it is shown, that the membrane which lines the mouth, throat, air-cells of the lungs, œsophagus, stomach, and intestines, as well as sending processes to the eye and ear, and other less important parts, possesses an "identity of exterior conformation, of structure, of vital properties and functions;" in short, it is the same species of membrane. Now it appears that an impression, whether it be healthy or diseased, made on one part of a membrane, is very liable to spread as far as this "identity of exterior conformation, of structure," &c. extends, but it does not affect a different order of membranes, as the serous, &c. "In the different descriptions of catarrhal epidemics, given by authors, we frequently see one of these membranes affected through its whole extent, while the other remains untouched; it is not uncommon to observe a general affection, especially of the *first*—of that passing from the *mouth*, the nose, and the surface of the eye, extending into the *alimentary passages* and bronchiæ."†

It is upon the most obvious inferences which the foregoing quotations furnish, we principally rest our belief, that where the stomach and bowels of children become deranged, while there exists that irritation of the gums, which is always present in a greater or less degree during the process of dentition,

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* Page 26—7. † Bichat, p. 28.

that the latter is the chief source of the former, and that by an early and correct application of remedies for keeping down this local inflammation, constitutional symptoms to any alarming extent, may be, with certainty, prevented.

We have, however, yet to consider whether the saliva secreted during the existence of inflammation in the parts from whence it proceeds, may not also contribute to constitutional derangement. That it is produced in much greater abundance under the above circumstances, is very obvious, and that from this cause alone, may prove prejudicial, can scarcely be doubted; but it is highly probable that it is even more injurious in consequence of some alteration in its properties: what may be the nature or extent of this change, it is not very easy to ascertain. It is asserted by Hamilton, that "during the process of teething the increased quantity of saliva, together with its acrimony, proves occasionally the cause of sickness."* And again, the same author declares, that, "from the passage of the saliva into the stomach and bowels, it has occasioned sickness, gripes, and looseness."† It is well known that surfaces which, in a healthy state, secrete a fluid perfectly bland and mild, do, under no other apparent form of disease than that of common inflammation, evolve one extremely irritating and acrid. This is particularly evinced in the Schneiderian membrane and the lachrymal glands in cases of common cold affecting those parts; their increased secretions do, very generally produce more or less soreness and tenderness of the external parts over which they pass; and even the saliva itself, which during teething is constantly running from the mouth, occasions very generally severe smarting and excoriation of the chin and breast on which it falls. When, therefore, this saliva, acrid in quality and increased in quantity, passes into the stomach and bowels, to which the irritation of the mouth has extended, it is not at all to be wondered at that

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* Page 277. † Page 293.

it should occasion as our author mentions, "sickness, gripes, and looseness."

If the authorities we have quoted, and the facts and opinions we have advanced, be entitled to credibility, the conclusion seems almost irresistible that the irritation of the gums which almost always attends the first dentition, particularly when the external membrane becomes affected, is very liable to, and frequently does extend to the stomach and bowels, giving rise to the most distressing and unmanageable forms of cholera; and if it be competent to occasion a complaint so severe, and even fatal, the propriety and truth of the remark made by Hamilton can scarcely be denied "that during teething every acute disease is more than usually dangerous."*

We are here met by the objection, that if the developement of the first set of teeth can have the influence we have supposed in occasioning what has received the emphatic title of the "summer complaint of children," why have we not as fatal a malady among infants during the winter, the spring, or the fall, since the process of dentition is not confined to any particular season? But a very little consideration will not only remove this objection, but materially strengthen the position we have assumed. It is very well known that teething is frequently attended with indisposition, a disordered state of the bowels, and sometimes even general and pretty severe fever at those seasons when bowel complaints are almost unknown among adults; consequently dentition is, of itself, sufficient cause to derange in a greater or less degree the stomach and bowels and other parts of the system. If therefore so powerful a cause be added to those which in warm weather give rise to cholera morbus, and similar affections in such as have passed the period of dentition, we can be at no loss to account for the general prevalence, the severity of symptoms and alarming fatality of cholera infantum.

It sometimes happens that instead of the stomach and bowels

* Page 295.

being affected, the symptoms are chiefly of a pneumonic character; indeed, it is very commonly attended with cough and other indications of an irritated state of the mucous membrane considerably removed from the gums. A convulsive cough, having the character of catarrh, is enumerated among the affections consequent on teething, by J. Grousset, and Hurlock records a number of cases in which this was a very prominent symptom.

The internal ear often becomes diseased, and continues to discharge more or less freely until the full compliment of the first set of teeth have made their appearance. It is not adviseable to heal, or indeed attempt to moderate this local complaint, for it is found that constitutional symptoms are less violent and less frequent during its continuance.

Hamilton, Rosenstein, Hurlock and several others, have noticed ophthalmia as an occasional attendant on teething; indeed one of the most violent and protracted cases I have ever witnessed arose altogether from this cause. It required the most active, general, and topical depletion to prevent the accession of ulceration of the conjunctiva and cornea, but entirely to discuss the disease was found totally impossible until all the early teeth had made their appearance; for, on the advancement of each tooth, there was a regular return of the violent inflammatory symptoms, notwithstanding that the child was kept on the strictest antiphlogistic regimen. The teeth having passed through the gums, it was never afterwards troubled with this alarming and painful complaint.

The quotation from Bichat, showing the nature of the connexion between these parts, explains in a very satisfactory manner why an irritation seated in the mouth may produce disease at points so very distant.

Eruptions, more or less numerous and extensive, frequently accompany teething. They are undoubtedly the consequences of a deranged state of the alimentary canal; but gerally nothing more is required than to keep the bowels gently open, and avoid imprudently exposing the child to a current of

air, or other circumstances by which they may be suddenly repelled; for in this case, convulsions, and even death, are very apt to follow.

There are few authors of respectability who have written on the diseases of this stage of infancy, who have not noticed as among the most alarming and most dangerous, convulsions; and some few have also mentioned partial or general tetanus. They both depend upon the same cause, nervous irritation. In a foregoing part of this paper, we have endeavoured to show that the nerves distributed to the parts immediately concerned in the developement of the teeth, are from the structure of those parts exposed to a high degree of irritation, under inflammation or other forms of disease, and we have also attempted to prove how very liable, at this time of life, the whole system is to become affected by local impressions. In order to place this view of the subject in a still stronger light, we have taken from Hurlock the following curious but conclusive case: "A tender infant," says he, "who was my patient some years ago. for the cure of a burn on the outer part of the arm, just below the elbow, whose mother, as she was one day shifting the dressing herself, the babe then lying in her lap, carelessly drew her sleeve over the bare wound, upon which the child went suddenly into a fit, and died on the spot."*

From what will be found under the first and second divisions of our subject, it will scarcely require that under the third, which comes next to be considered, our remarks should be more than general; for if the view we have taken be correct, the course of treatment it indicates is as obvious as that of any disease with which we are most familiar.

The first obvious symptom of the commencement of dentition, is an increased secretion of saliva; and it does sometimes happen, that no other indication of the approach of the teeth is perceptible, and even this in a very slight degree, until the

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* Page 255.

point of one of them is felt immediately beneath the exterior membrane or covering of the gum, and occasionally not until it has passed through this likewise. But so mild a course is not always to be met with; frequently symptoms of irritation early become apparent. The child becomes restless and fretful; whatever it can get into its mouth, it presses between its gums. This, which merely indicates it to be the seat of pain, has been erroneously advocated as a proof of the propriety of rubbing their gums with hard bodies, than which nothing can be more injurious. Would an inflammation and swelling, situated on the anterior edge of the tibia, be fairly dealt with, by rubbing it constantly with a piece of ivory, or other hard substance, with as much force as could be well applied? It is equally objectionable in the case of teething infants. The gums look swelled, and have the appearance of being inflamed. Should the symptoms continue to increase, others of a more serious character are developed. The pulse is increased in frequency and force; the bowels become disordered, attended with severe griping pain, and frequent stools, which are of a greenish cast. The saliva is now secreted in great quantity; the gums become highly inflamed, and if one or more of the teeth be near the surface, it is somewhat elevated immediately over them; the glands in the mouth become also involved, which, with the gums, are extremely painful to the slightest touch of the finger. The child is troubled with frequent startings in its sleep, which is never sound, or of long continuance; it refuses its food, or if swallowed, it occasions sickness of the stomach, and is thrown up. It now assumes the character of confirmed cholera infantum.

While the symptoms are only local, and the child seems lively, takes its food as usual, sleeps well, and is free from fever, no fears need be felt. But if it becomes peevish and cross, restless, with disturbed sleep, is feverish, accompanied with disordered bowels, every care and attention should be observed. The gums should be attentively and frequently examined; if they seem much inflamed, or are becoming

so, and give uneasiness to the touch, it would be proper to have immediate recourse to topical depletion. Blisters behind the ears are very generally advised, and will often accomplish what is required by keeping up the discharge with any slightly irritating application, as the fly ointment, &c. It is very difficult to keep the parts clean; and therefore, unless the discharge has come on spontaneously, which is sometimes the case, the application of leeches behind the ear would be preferable. However, the most efficient remedy, and one that may as well be had recourse to in the first instance, is the lancet; it is the most speedy, and most certain. Much has been said both for and against it, and certainly it was liable to be productive of much injury, until the profession was favoured with Dr. Blake's treatise. He has very satisfactorily pointed out in what manner this may be so, and how it may be avoided; indeed, he has proved very clearly, that in the hands of the ignorant, it may be productive of lasting and irreparable mischief. But this is an objection equally applicable to almost every efficient remedy with which we are acquainted, and cannot therefore be urged as a reasonable one against this. We are to recollect, that we have to contend with a disease which, from the nature of the parts affected, as we have elsewhere endeavoured to demonstrate, must be excessively painful; we are also to bear in mind how very apt the whole system is to become deranged, at this period of life, by local irritations producing convulsions, &c.; and that this complaint in the mouth is particularly liable, from a consent of parts, to extend to the stomach and bowels, occasioning a most distressing and even fatal malady. Under these circumstances, we ought not to hesitate in making use of the most effectual remedies at once; and in local inflammations elsewhere situated, topical depletion, as near as possible to the part affected, stands the first. If the tooth or teeth did not appear to be near the surface, occasioning fears that in cutting down to them, their connecting membrane with the second set of teeth might be divided; and yet that the symp-

toms were pressing, we ought not to hesitate scarifying the gums, particularly their anterior surface, and repeating the operation as often as might be found necessary. Temporary relief may be obtained by moistening the gums with lime-juice; it is not however of long continuance. If leeches could be conveniently applied, they would he preferable to every other mode of local evacuation. It is hardly necessary to undertake a formal refutation to the objection sometimes made against incision: that if the wound closes, the cicatrix gives greater resistance to the passage of the tooth than if the operation had not been performed; as it is now sufficiently established, that all such parts are more delicate in their texture than those of original formation. If, as is generally the case, you can be directed by the feel to the edges of the approaching teeth, the lancet should be pressed down so as completely to divide all the parts covering the superior surface of the tooth or teeth; and if it be over the double teeth, a crucial incision would be most proper. It is astonishing how speedily the most violent and threatening symptoms, and which had resisted every other mode of treatment, subside after this operation, practically verifying the theory here advanced. During the continuance of dentition at all times, but particularly in the summer season, great care should be paid to the diet of the infant; it should be light, nutritious, and well prepared, so as to be easy of digestion; and the stomach should never be overloaded. It would be much safer that the child takes its food often, but in small quantities; for there can be no doubt that cholera infantum may be, and often has been, developed, which might have been avoided by merely giving the necessary degree of attention to this precaution; as it ought always to be borne in mind, that it is much easier to avoid disease than to cure it. The natural temperature of the skin should be carefully kept up by the use of flannel, by avoiding improper exposure, and, when necessary, the use of the warm bath; for the stomach or bowels never become seriously disordered, while the surface retains its healthy standard.

It does not come within the sphere of our present purpose to treat particularly of cholera infantum; but should the preceding directions and precautions receive that consideration to which they are entitled, many a parental pang would be saved, many a useful member preserved to the community, and the veil of death would less frequently shroud the morning of life.

Art. III.—An *account of a case of* Carcinoma *of the* Uterus.

By Jonathan Eights, M. D. of Albany, N. Y.

Perhaps there is no organ in the human body more liable to a greater variety of diseases than the uterus, and perhaps no class of diseases more formidable in their nature, more distressing in their symptoms, or more fatal in their terminations. Not only does the body suffer, but the mind also becomes greatly affected. Hope, which almost in every disease bears up the spirits, and looks forward to a favourable issue, in these, seems to have vanished, and leaves the mind to brood over its present sufferings, and in gloomy presages of the future. This may in some measure be accounted for by the strong sympathies that exist between the uterus and the stomach, and the stomach and the brain. In no disease of this organ are these observations more applicable than in *Carcinoma Uteri.* The anxiety of mind, the severity of pain, and the quantity and fœtor of the discharge in its ulcerated state, render life a burthen, and the unhappy sufferer welcomes death as a blessing.

"The history of cases forms a species of reading more beneficial than any other; nothing can exceed its utility but actual attendance on the diseased;" and if physicians in general would note and publish to the world, cases which occur in their practice, attended with extraordinary symptoms and appearances, it would be adding to the general stock of science, and would be rendering a benefit not only

to the present, but to future generations. Under these impressions I am induced to submit to the public the history of the following case.

On the 23d day of June 1822, I was called to visit Mrs. — in labour. She informed me that pains had been present nearly the whole of the preceding night, but that they had become very severe within the last hour, and it was also stated that a slight hæmorrhage had been present since the commencement of the labour (10 o'clock A. M) From the violence of the pains and the pressing occasioned by them, I expected to find the fœtus low down in the pelvis. Upon examination, however, I found a substance of rather a firm texture, and very uneven surface presenting, through which no motion of the fœtus, or any part thereof, could be distinguished, although it could be plainly discovered through the parietes of the abdomen. I was at first at a loss to determine what this presenting substance could be, and with much difficulty passed the two fore-fingers of my right hand along the hollow of the sacrum, in order to find, if possible, the os uteri. The presenting substance (which afterwards proved to be a diseased uterus) completely filled it, and the pains pressed the uterus forcibly forward. Not finding it in this direction, I passed my fingers upwards and over the presenting parts, under the os pubis—here the os uteri was situated, and open to about the size of a twenty-five cent piece; about two-thirds of this opening was thick and uneven, being apparently more than half an inch in thickness, and hard and unyielding; the remaining part of the os uteri was thin and apparently healthy. By pressing the uterus backwards along the course of the sacrum in the interval of pain, the os uteri was brought down from behind the os pubis into the vagina. The membranes had been ruptured some time before I saw her, and the child presented fair. After remaining with her some time, I again examined her, but found no alteration in the state of the os uteri. From the unfavourable situation of the parts, I was fearful that she could not be delivered in the natural way, and communicated

my fears to her husband and friends, explaining to them her real situation. As the pains were very severe and still pressing, I administered fifty drops of laudanum, in order to moderate the violent action of the uterus, and to give time for its mouth to dilate. I now left her for a short time in order to reflect on this singular case. About 2 o'clock, P. M. I again examined her, but perceived no alteration. The pains had become less pressing and at longer intervals; her pulse was good and she was not exhausted; hemorrhage continued as before, which I was in hopes would have had an effect in dilating the parts, should they not be so far diseased as to prevent its taking place. I found the os uteri dilating, but apparently in that part only which retained its healthy state, which was become extremely thin: the diseased part remained of the same firmness and thickness as when first examined. The pains had now become severe and pressing, and I was fearful of a rupture of the os uteri: the parts continued slowly to dilate, and after a severe labour, she was delivered, about 5 o'clock of a full grown, healthy, and vigorous child.

After its expulsion, I had an opportunity of examining more particularly the state of the uterus internally. Introducing my hand along the cord, I found the placenta attached over the fundus uteri; the internal surface corresponded in some degree with the external, feeling hard and firm, but more smooth and not so uneven. All that part lying along the sacrum, and extending upwards on both sides, appeared diseased; the part towards the abdomen, containing as near as I could judge a surface of about one-third of the whole, retained a natural feeling. The diseased part of the os uteri remained of the same thickness as during labour. No rupture of the healthy part was discovered, and it was so soft, that the dilatation must have taken place wholly in that part. The placenta was delivered with a slight exertion, and some hemorrhage ensued, but gradually subsided. No after-pains were experienced, and the patient only complained of a great soreness of the parts. She was put into bed, and an anodyne administered: no unusual

symptoms occurred except darting pains through the hips and lower part of the back. The lochia appeared natural; she had a plentiful secretion of milk, and in a few days was up, although she complained much of weakness and pain.

The subject of this unfortunate case was 33 years of age, robust and muscular, and had always enjoyed uninterrupted health. She was accustomed to labour, and very imprudent in exposing herself unnecessarily to cold and wet. She was the mother of six children. During the last three of her labours I had attended her; the two previous to the last, had been natural and easy, and I am satisfied that no disease of the uterus was present at those periods. She informed me that she continued well until she was seven months advanced in her last pregnancy, when she began to be troubled with sharp pains through her back, hips, and lower part of the body, some pain in passing urine, and much uneasiness at going to stool, which continued for some time after, with a constant bearing down. She had frequent hemorrhage during the two last months, especially after working or severe exercise, which however did not continue long. She observed that she was losing flesh, but her appetite continued good; and this induced her to attribute those feelings to her pregnancy, assigning this indeed as the cause of her not applying to her physician.

About three weeks after her delivery, she complained that the pains were more acute than they had been, and that the discharge which had nearly ceased, had again come on, and become extremely offensive. I now examined her, and found the whole of the os uteri diseased. It had a rough and ragged feeling; the external surface was as has been before described; the os uteri was so far open as freely to admit the finger, but was extremely tender to the touch. I was satisfied that ulceration had taken place, accelerated no doubt by the injuries the parts had sustained by the passage of the child.

I continued my attendance on her until about the middle of November following; during which period she had made use of every means recommended in this dreadful complaint. She

experienced the most relief from cicuta taken internally in the form of extract, together with a decoction of the green plant injected into the vagina. The disease notwithstanding continued to advance, and the discharge was profuse and extremely offensive. After this period she fell under the care of several physicians successively, and finally was promised a speedy cure by empirics. The pain had however become so severe, that she was under the necessity of using large and frequent doses of opium to procure the least mitigation of her sufferings. Death at last put an end to her misery, on the 1st of April, 1823.

For a minute account of the dissection, I am indebted to a paper read before the Medical Society of the County of Albany, in July last, by Dr. Marsh, of this city, who was present and assisted in the examination, and who had an opportunity of dissecting the morbid parts at his leisure.

Dissection.—The lungs, liver, heart, &c. were found in a perfectly healthy state. After a careful examination and dissection of the parts when removed from the pelvis, it was found that the rectum, bladder, ureters, vagina, ovaria, fimbriæ, blood-vessels, and nerves, had all partaken of the original affection of the uterus.

Upon laying open the rectum longitudinally at its sacral or posterior surface, its roots were found thickened and altered to a great degree. Where the muscular coat was divided, it resembled the structure and appearance of the epiphyses of fœtal bone, previous to the commencement of ossification.

The two layers of muscular fibres, the longitudinal and the circular, were very distinctly shown, with an intervening cellular tissue or coat; and near the seat of the disease of the womb it appeared to be nearly three times its natural thickness in a healthy state.

The vascular and villous coats represented the most minute injections of the blood vessels, and were extremely turgid.

In the bladder, on the side which was contiguous to the part of the uterus more severely affected, was found a breach

which communicated with the general cavity of the ulcer, and was sufficiently large for the admission of three fingers. At the same time, the cavity of the bladder was so much diminished, as not to contain more than four, or at most, six ounces of fluid, and its coats around the opening were thickened to half an inch. When cut into, it appeared not dissimilar to the structure of the uterus, extremely vascular, and the vessels loaded with blood.

The right ureter, where it entered the bladder, was completely destroyed, and about half an inch of its lower extremity very much thickened, and its calibre contracted: the natural consequence of which was, a dilatation of the remaining superior part, by the unnatural detention of the urine, to about three times its natural diameter. The left ureter was found much enlarged, though not in so great a degree. The vagina was found strongly marked with inflammation in some parts, while others were excoriated by the acrid discharge from the uterus; that part of it connected with the uterus participated in the general affection.

Adhesions were found between the fimbriæ and the ovaria, the left being slightly dropsical, and the right adhering to the inferior and diseased extremity of the right ureter.

In addition to the diseased appearances above described, there was a tumour dissected out from beneath the external iliac artery, and from the inner border of the pooas and internal iliac muscles, about the size of a turkey's egg, which appeared to be encysted, and the contents of a curd-like consistence. The size and situation of this tumour, and the diseased state of the contiguous parts, may account for much of the pain and distress she experienced in her hips and back.

The whole remaining body of the uterus presented a diseased mass; the os tincæ, cervix uteri, and nearly the whole of the right side, were destroyed by ulceration, and a large quantity of extremely fœtid pus, similar to what had been discharged, was found in the pelvis.

ART. IV.—*Contributions in Obstetric Practice.* By WESTEL WILLOUGHBY, M. D. Professor of Midwifery in the University of the state of New-York.

TO THE EDITORS OF
THE NEW-YORK MEDICAL AND PHYSICAL JOURNAL.

GENTLEMEN,

Permit me to present to you, and through the medium of your useful journal to the public, the following cases, provided you should deem them of sufficient interest.

The first goes to confirm the mechanism of what has been termed the *spontaneous evolution* of the child in parturition, as stated by Dr. Gooch in his communication to the College of Physicians of London, and published in the medical transactions of that body.

The second shows the triumph of nature over art, as well as the period that uterine contraction may be suspended after it has once commenced, without any material injury to the parturient patient; while the third case demonstrates the possibility of concealed uterine hemorrhage, in the earlier months of gestation, and the happy effect of the Ergot in promoting the uterine action.

CASE I.

Not long since I was called to attend Mrs. P. in labour with her fifth child. She was healthy, and passed through the period of gestation without any particular inconvenience.

The pains were frequent, regular, and expulsive. On an examination, the soft parts were found yielding, the os uteri open and dilating, the membranes entire, and containing more than their usual quantity of liquor amnii—the presenting part of the child was the shoulder.

In this situation, and while I was waiting to have the mouth of the uterus somewhat more dilated, before attempting to alter the position of the child, I was called out of the room, and necessarily detained 15 or 20 minutes. Immediately on my

return, and before I had time to seat myself by the patient, a most violent uterine contraction took place, the membranes gave way, and the waters of the amnion were projected with much force.

I was much chagrined to find that I had let the most favourable time pass, in which the position of the child should have been changed, by bringing down the feet.

The arm was now in the vagina, and the shoulder pressed through the superior strait, while the uterus was closely embracing the child.

Reasonable efforts were made to pass the hand by the shoulder so that it might arrive at the feet of the child, but they proved abortive; every attempt to elevate the shoulder, or pass the hand into the uterus exciting the most expulsive uterine efforts.

Being now sensible from the progress of the labour, the open state of the mouth of the uterus, the laxity of the soft parts, the capacity of the pelvis, the regular and expulsive efforts of the uterus and its auxiliary agents, that a spontaneous evolution would very shortly be effected; I contented myself with carefully watching the resources of nature, and had the satisfaction of learning them, and understanding the manner in which she accomplished her important process.

The position of the child in utero, as nearly as I could understand it, was the following.

The side of the neck was resting on or near the edge of the os pubis, while the side of the thorax was over the sacrum, and the anterior part of the breast towards the left iliac fossa, while the breech and inferior extremities occupied the superior part of the uterus—the right arm presenting.

The pains being forcible, the arm was soon pushed through the external parts, and the shoulder brought under the arch of the pubis, where it became for a short time firmly fixed; but as the side of the chest advanced, putting the perinæum greatly upon the stretch, the shoulder instead of remounting behind the pubis, turned a little forward as the occiput does in the

most natural labour, while the side of the thorax, side of the abdomen, and breech passed successively over the perinæum, the inferior extremities immediately following.

A momentary respite now ensued, but the pain soon returning, the head and left arm were naturally and easily expelled, and the secundines followed shortly thereafter.

The child was living, healthy, and of the ordinary size. Thus was this woman safely delivered without the assistance of art, in less than three hours from the commencement of her labour, notwithstanding the unfavourable position of the child.

I do not give this case with a view to exonerate the accoucheur, or to deter him from making every prudent and seasonable attempt to turn the child in a shoulder presentation—it is his imperative duty; for many women and more children have been lost by an omission of this important rule of practice.

In the above case, had there been rigidity of the soft parts, feeble uterine action, or the least disproportion between the head of the child and the cavity of the pelvis, it is not probable that a spontaneous evolution could have taken place. Or had the labour been complicated with hemorrhage, or any other unfavourable circumstance, my feelings would have been severely taxed, for not seasonably carrying my hand into the uterus, securing the feet, and bringing them down, before the waters were evacuated, and the uterus had contracted firmly upon the child.

CASE II.

In April last I was requested to visit Mrs. F. at a distance of thirty miles from my residence. I learned from the messenger that she had been in labour five days with her fourth child; that there were two physicians in attendance; and that the life of the patient was despaired of.

I made all due diligence, and arrived at the house of the patient on Saturday morning, it being the sixth day from the commencement of the labour; and was much pleased to find the woman delivered and comfortable.

From the attending physicians, I obtained the following history of her case. That she was taken in labour early on the preceding Monday morning, when Dr. H. was sent for.

On his arrival, the pains were regular and forcible; and on an examination being made, the os uteri was found somewhat dilated, and the membranes were entire, while the hand and arm of the child were plainly to be felt through them. The pains increasing in frequency and effect, the membranes became ruptured, the hand and arm pushed through the mouth of the uterus, and the waters drained off, while the uterus closely and spasmodically embraced the child.

The pains ceasing altogether, Dr. H. endeavoured to raise the shoulder from the superior strait, so as to enable him to pass his hand into the uterus, and change the position of the child; but in this he could not succeed. He then endeavoured to dilate the os uteri, which closely embraced the shoulder of the child, so that he might pass his hand by the shoulder into the cavity of the uterus, but this he could not accomplish.

Bleeding and opium were resorted to with a view of overcoming the uterine spasm, but without effect.

The woman remaining in this situation until Tuesday, Dr. H. requested counsel, when Dr. G. was sent for. On his arrival, the woman being entirely free from pain, he endeavoured to dilate the mouth of the uterus, but could not by what he deemed prudent exertion, get one finger into its cavity, so closely did the os uteri embrace the shoulder of the child.

The bowels were now freed by a portion of oleum ricini, blood was detracted, and a full dose of Tinct. opii given.

After waiting the effect of the opium, attempts were again made to dilate the mouth of the uterus, with a view of getting the hand into its cavity, but in these exertions they were alike unsuccessful.

There was no uterine contraction, or pain, except those that were excited by the attempts to deliver.

In this situation, the woman remained until Friday, P. M., when it was thought adviseable to send for me.

The physicians gave up their exertions, left the woman to the care of her female friends, and returned home; promising to be back early on Saturday morning, when they expected I would arrive.

About two o'clock on Saturday morning the parturient pains returned. They were frequent, and powerfully expulsive. Dr. G. was immediately sent for, but before his return a spontaneous evolution took place, and the woman was delivered of a dead child.

I interrogated the woman that received the child, as nature presented it to her hands, relative to the part that was first delivered. She replied, that "*the child came double, and that the head was the last part that came away.*"

In this case, the accoucheur neglected his duty in not seasonably rupturing the membranes, and carrying his hand into the uterus, in order to secure and bring down the feet of the child, while it was within his power to have done it.

The peculiarity of the case, consists in the total absence of pain for five days after the rupture of the membranes, and the protrusion of the arm through the os uteri; and the humiliating part to the physicians was, that nature should accomplish in two hours, what they could not perform in several days.

CASE III.

Early in the morning of the 27th of last month, I was requested to visit Mrs. H., who was said to be labouring under violent flooding. On my arrival, I found her much exhausted; the countenance exsanguined, and the extreme parts very cold.

The repeated gaping, partial syncope, and feeble pulse, were strong evidences that there was a great waste of the vital fluid.

She had, at the commencement of her flooding, prudently placed herself in a horizontal position, and her female friends had placed cold applications to the pudenda and the hypogastric region, which had nearly restrained the hemorrhage.

I learned from the women in attendance, that Mrs. H. considered herself in the third month of pregnancy. This opinion

I deemed correct, from the volume and situation of the uterus. The hemorrhage made its appearance on the 26th, while she was lifting her little daughter, which had been dangerously scalded on the preceding day.

The solicitude, care, and fatigue of this kind and faithful mother, produced her unpleasant and alarming situation.

The discharge of blood was moderate until the morning of the 27th, when it became profuse. As there was no pain, or dilatation of the os uteri, or developement of the cervix, I had immediate recourse to that important mechanical remedy, the plug: and the effect was, as it always has been in my hands, when well applied in like cases, a complete suppression of the flooding. The usual auxiliary remedies were, however, not omitted.

The next step was to restore warmth to the extremities, and to relieve the faintness and exhaustion. This object was in a measure accomplished, by artificial heat, mild cordials, and light nourishment; so that within two hours from the introduction of the plug, she was quite comfortable.

After the loss of so much blood, I knew that the process of gestation must be destroyed, and that abortion would follow.

There had not been since the beginning of the hemorrhage the least pain or irritation, except a weight or heaviness in the uterine region. I waited a few hours with an expectation that uterine contraction would come on; but as it did not, and as the patient was quite comfortable, I returned home, after leaving suitable instructions. Four or five hours thereafter, I was requested to return immediately, as it was believed the woman was dying.

No time was wasted by delay. I found that the patient had been labouring under a protracted syncope previous to my return, but was at this time much revived.

I inquired if the flooding had again ensued, or whether the patient had been labouring under pain, but was answered that neither had taken place.

Anxious to learn the cause of her extreme faintness, there being not the least apparent hemorrhage, I gently removed

the plug, so as to ascertain the state of the uterus, but was not a little surprised to find, that I could not reach any part of that organ with my fingers. Instantly, from this circumstance, I suspected a concealed hemorrhage, and placing my hand upon the hypogastric region, my suspicions were confirmed.

The uterus, from the extravasated blood in its cavity, had become enlarged, and ascended from the pelvis, into the hypogastrium.

This concealed hemorrhage, and sudden rising of the uterus from the pelvic cavity, fully explained the cause of her protracted and alarming syncope.

The only safety of my patient at this time consisted in uterine contraction, while it was evident in this case, that the hand could not be carried into the uterus to produce that effect.

To overcome this inirritable and atonic state of the uterus, I knew of no internal remedy that promised so much as the ergot; or any external means more likely to succeed than friction and judicious exposure.

The plug was replaced, friction and gentle pressure over the uterine tumour was used, and a table spoonful of a strong decoction of the ergot given once in ten minutes.

After the administration of the fourth dose of the ergot, the usual pressing and uterine irritation was produced, and very shortly thereafter, spasmodic contraction ensued, which soon emptied the uterus of a quantity of coagulated blood, and the detached ovum.

The uterus being thus disencumbered of its burthen, a healthier action of that organ succeeded, and the patient rapidly recovered.

Fearful that this case may furnish an objection against the use of the plug in flooding, I would observe, that I have been in the habit of using it for twenty years, in all cases of profuse uterine hemorrhage, and have in no instance before met with a single case of concealed hemorrhage, although I have used it in all periods of gestation, when a state of flooding required it; and I am greatly deceived, if it has not been in my hands, of more practical importance than the whole class of astringents.

Art. V.—*Cases of* Cynanche Laryngea, *with Remarks.* By Daniel L. M. Peixotto, M. D.

CASE I.

D. S., aged 23 years, of sanguine temperament, light complexion, and of full habit of body, complained for several days of symptoms of catarrh and cynanche caused by a check of perspiration on leaving a ball-room when much heated and fatigued by dancing. His fauces were at this time slightly swoln, his voice was hoarse, his countenance flushed, pulse full and chorded, and deglutition accompanied with some degree of pain. He was advised to be bled, and to take an emetic, but was prevented by business from attending to the advice, or taking the least care of himself. On Friday the 21st November he was seized in the evening, immediately after eating a hearty meal, with sudden symptoms of strangulation in the upper part of his throat. His face became turgid, his eyes were staring, his lips livid, his mouth open, and head thrown back, and his arms were extended to those around him, as if imploring for relief. His breathing was laborious in the extreme, and accompanied with a sonorous wheezing, conveying the idea of the air making a forcible passage through a very contracted aperture. His pulse was much hurried, but at the moment of attack neither chorded nor full; his skin was hot, and his whole appearance so distressing as to indicate immediate extinction of life. Forty ounces of blood were forthwith drawn from the arm, and an emetic of tart. ant. et ipecacuanha administered. Before the influence of these means could be felt, recourse to tracheotomy was anticipated as necessary; but, on the taking place of relaxation from the depletion and vomiting, relief was immediate. On being asked the seat of his distress, he pointed externally to the upper part of the thyroid cartilage, and internally to the root of his tongue. Leeches were now applied to the neck, by which an additional quantity of blood was withdrawn, and after their

abstraction, a large blister, to cover the whole throat, was put in their place. To produce further relaxation and relief, a second emetic of sulphate of zinc was given with the happiest effect; after which a table-spoonful of strong solution of tartarized antimony was directed every hour during the night. By the aid of these active means conjointly used, the patient obtained comparative ease, and lay in apparent quiet till between 4 and 5 A. M., when another paroxysm taking place, similar to the first, though not so severe, he was again bled and relieved. Nearly thirty ounces of blood were at this time abstracted.

Saturday, 22d November.—Pulse still attended with considerable action, but softer; difficulty of deglutition continues troublesome. Calomel gr. ij. and tart. ant. et pot. gr. i. every two hours, assisted by diluents. Blisters had drawn well, and were dressed with simple ointment.

7 P. M.—Medicines have acted favourably on skin and bowels, and patient enjoys some repose: voice still hoarse, and deglutition as before.

Sunday, 23d.—Symptoms the same as yesterday. Calomel continued with half the quantity of tartar emetic.

11 A. M.—An exacerbation of the symptoms, but not very severe, taking place with distress in the throat, a smart emetic was administered, on the application of which relief was instantly obtained. A gentle and universal perspiration followed. The bowels are kept gently open.

7 P. M.—Patient comfortable; expectorates a quantity of mucus occasionally, the accumulation of which in the throat causes distress; voice still hoarse.

Monday, 24th.—Pulse full and chorded; symptoms the same; distress in the throat still continues. Thirty ounces of blood were drawn, which caused a considerable degree of faintness, from which the patient did not wholly recover for two or three hours. Calomel gr.iij. every four hours. Spiritus mindereri ʒvi. and tart. ant. et pot. gr.iij. a table-spoonful every two hours, by which skin was kept very free during

the day. In the evening, however, a very sudden and alarming exacerbation occurred, which required a repetition of the former active means before it was subdued. The patient was again largely bled, and the other remedies continued. Some pain was felt in the bowels during the night, which was alleviated by emollient enemata.

Tuesday, 25th.—Excitement still continues. Tart. emet. gr. viii. dissolved in aq. pur. ʒvi. M.; a table-spoonful every one or two hours pro re nata: calomel continued: blistered surfaces stimulated with cantharides.

Wednesday, 26th.—Considerably relieved; voice more free, and deglutition not so difficult. Towards evening, mouth slightly affected by the calomel, upon which it was given at longer intervals.

Thursday, 27th.—Mouth very much affected, and patient evidently better; he swallowed some rice without difficulty. From this day, an amendment was perceptible in the voice, and the power of swallowing gradually recovered.

Friday, 5th December.—Patient has been slowly recovering; his mouth still very sore, and his decayed teeth painful. Astringent gargles were directed, and the diet more generous than before; laxatives occasionally ordered, according as circumstances required. Convalescent.

This case was attended by Drs. Post and Bliss, and myself.

CASE II.*

"J. M. K., a lad of delicate habit of body, aged eight years, and who had the season previous suffered under a pulmonary affection subsequent to measles, was seized, after being exposed in a shower of rain in September 1821, with violent catarrhal symptoms and sore throat, for which domestic remedies were employed. The day after the attack, he was affected with pretty violent symptoms of cynanche, and with diffi-

* I am indebted for the following case to the politeness of Dr. Bliss, in whose practice it occurred, and whose remarks accompany it.

culty of swallowing; fluids, in the act of deglutition, finding their way into the larynx, and causing a sense of suffocation which was relieved by a fit of coughing. He had also febrile symptoms, and white tongue. He was treated with emetics, blisters, pediluvium, and with calomel and antimonial powders in divided doses. These remedies relieved him, although the febrile and other acute symptoms did not subside until after ten days from the first attack. Hoarseness, wheezing, and difficulty of deglutition, particularly with respect to fluids, continued for near six weeks; they were gradually relieved by the occasional use of emetics, expectorants, and blisters.

"I have seen two instances of this form of cynanche in infants. The first supervened on whooping cough, and terminated fatally in about ten hours from the attack. The second was preceded by severe catarrh, and I did not see the patient till near the termination of the disease, when great exhaustion had taken place. Emetics, the warm bath, and blisters, were in this case followed with temporary relief, insomuch that a fatal termination was protracted till nearly a week from its attack, and it is not improbable that early bloodletting might have completely arrested the disease. In every case which I have witnessed, there has been difficult deglutition, and towards the termination of the disease it has been so great as to endanger suffocation whenever it was attempted. Every succeeding case more fully evinces the importance of early and copious blood-letting. Emetics, blisters, warm bath, and calomel, cannot be depended upon, unless the attack is uncommonly mild. In worse cases our patients will inevitably be lost, if the most prompt and energetic treatment be not adopted. Effusion beneath the mucous membrane of the larynx, so as to induce suffocation, may take place in a very short time, as in the instance of the late Mr. Mactier of this city, and render abortive all attempts at relief. A few moments delay on the part of the patient in applying for assistance, as in the above mentioned case, may place him in a situation which may render even the operation of bronchotomy altogether hopeless."

REMARKS.

Before the appearance of Dr. Farre's paper in the third volume of the Medico-Chirurgical Transactions, Cynanche Laryngea did not attract the notice due to its importance. The providential infrequency of a disease so generally fatal, will not altogether account for this circumstance. It is rather to be feared that ignorance of its peculiar character, as in the cases of Dr. David Pitcairn and Sir John Macnamara Hayes, has too often led practitioners to confound it with the other species of cynanche to which it bears a strong, but by no means an undefinable, analogy. The treatment of this formidable malady, independently of the gratification of laudable scientific curiosity, requires modification to a sufficient extent to entitle it to the separate and especial consideration of the pathologist.

Hippocrates seems to refer to this affection in the 17th aphorism of the 3d section of his Prognostics,* when he mentions the occurrence of angina without apparent inflammation, and producing instant suffocation.

Lommius, in his admirable observations on diseases, thus paints, with monographic accuracy, the most severe species of the angina :

Porro mortifera est, atque omnium horrendissima angina, citissimeque incidit, et necat, quæ neque in cervice, neque in faucibus quicquam conspicui, vel tumoris, vel ruboris exhibet, simulque summi doloris tormentum,et vehementem febrem, atque tantum non præsentem suffocationem infert. Tum profectò oculi vertuntur, et rubent, et veluti iis qui strangulantur prominent: vox impedita nihil significat, et qualis catulorum est, tenuis editur : os apertum hiat ; frigidi aëris cupidum, ex eoque spumans saliva movetur : lingua exeritur, crebroque ut in anhelis propter laboris impetum equis, agitatur : potui datus liquor per nares remeat : labra livescunt : cervices rigidæ contractæque sunt : ipse æger totus inquietus est, crebro e cubili exilit, moleste supra dorsum, commodius recto collo atque capite cubat ; videt auditque obtusé, et præ suffocatione non

* Prognostics and Crises of Hippocrates, translated by Henry Wm. Ducachet, M. D. p. 68.

intelligit quid audiat, quid dicat, aut gerat: tandem vero strangulatu, atque syncope oppressus, perit.* Whether these authors had a clear view of the distinction between croup and cynanche laryngea may, however, well be doubted.

Boerhaave did not fail to trace this distinction, and to ascertain its cause, as may be seen by a reference to his 801st and 802d aphorism. He therein expressly states, that inflammation attacking "the white muscle" of the epiglottis, is more severe than in any of the neighbouring parts, and frequently is the cause of instant death, by causing a contraction of the rima glottidis.

To Dr. Farre is, however, due the credit of having, in a more especial manner, directed the attention of his professional brethren, both at home and abroad, to this subject. His accurate details of the cases which fell under his observation, and the marked line he has drawn between this and the other forms of cynanche, have secured to him the grateful notice of every subsequent writer on the disease.

Dr. James C. Bliss of this city, appears, as far as I can ascertain, to have been the first writer who noticed its occurrence in this country. His paper, which will be found to contain a faithful and interesting account of the disease, may be seen in the transactions of the Physico-Medical Society of this city.

From an analysis of the several cases of this disease, which have been hitherto recorded, it appears that it possesses some peculiar characteristics which it may be interesting briefly to recapitulate.

1. Cynanche Laryngea has, in the majority of instances, attacked adults. To this the two instances mentioned in the second case are, however, exceptions. In this respect it differs more especially from croup, to which affection children are most obnoxious.

2. The fauces, and tonsils, and pharynx, are, in general, slightly inflamed. This symptom it has, in common with cy-

* Jodoci Lommii Observationes, &c. Amstelœdami, 1738, p. 99.

nanche tonsillaris and pharyngea, but not only is the inflamed appearance of these parts, slighter in this than in the latter affections, but it is by no means proportioned to the violence of the symptoms, or adequate to explain the great distress suffered by the patient in deglutition.

3. The seat of the pain and the source of difficulty in swallowing, are referred to the upper part of the larynx, which is, moreover, tender to pressure.

4. The difficulty of deglutition is, perhaps, the most prominent symptom during the disease, and distinguishes it especially from cynanche trachealis. This symptom belongs likewise to inflammation of the pharynx and tonsils, but it is sufficiently distinguished from these diseases by

5. The laborious respiration. It is in consequence of this difficulty of breathing, that it is so frequently confounded with cynanche trachealis, to which it undoubtedly bears a strong resemblance ; but the last mentioned symptom, as has been observed, will, in most cases, suffice to point out the difference in the seat and nature of the two affections.

6. The pulse. Though the circulation is uniformly hurried and vigorous in this, as in all inflammatory affections, yet it frequently happens that in consequence of the necessary supply of air being denied access to the lungs through the contracted rima glottidis, the blood cannot flow through these organs with its accustomed freedom, and the force of its motion throughout the system is necessarily lessened. Thence it is that the pulse will often, in the moment of most imminent danger and acute suffering, be found, as in the first case recorded in this paper, small and oppressed. But this would only indicate the absolute necessity of the most active and powerful means of depletion.

7. The treatment must evidently be not only prompt and decided, but consist of the most active means used in conjunction or immediate succession. The first rank undoubtedly appertains to copious and immediate *bloodletting ad deliquium*

animi. In almost every successful case this means was had recourse to, and carried to an extent proportioned to the violence of the attack ; and on the other hand, in the majority of fatal cases, it has been sparingly or inefficiently employed. Its power in arresting the rapid strides of the disease, even when clothed with extremest violence, is beautifully displayed in the first case. It has been no less remarkably and happily successful in the case of Professor Francis, which occurred about the same time. Local, may be advantageously used, in addition to general bleeding, but must never supersede the extensive and repeated employment of the latter, when indicated.*

The next powerful agent is vomiting. Dr. Armstrong relates several instances in which emetics were found highly successful. The result of more extensive experience convinced that author, and will impress upon the mind of every practitioner the idea, that they can only be relied upon as *adjuvants.* In cases of exhaustion, from former disease, or from active treatment unsuccessfully employed, this remedy must be mainly relied on.

Blisters, and other local applications, and above all calomel, to affect the general system, will admirably aid in equalizing the excitement, and preventing a recurrence of the fearful paroxysms.

In one case, mentioned by Sir Gilbert Blane, the inhalation of oxygen gas arrested the disease, and effected a cure.†

Lastly. Bronchotomy, to be attended with any benefit, must be had recourse to, immediately upon the failure of the active means early recommended. Then, before the inflammation has extended to the inferior parts, it may be the means of prolonging life even for years. Some admirable observations on this means of relief will be found in the transactions so frequently referred to in this paper.

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* Armstrong's Practical Illustrations of Typhus Fever, p. 367.

† Medico-Chirurgical Transactions of London.

Art. VI.—A Case *of* Malformation *of the* Heart; *with physiological remarks.* By Cyrus Perkins, M. D. of New-York, late Professor of Anatomy and Surgery in Dartmouth College.

The subject of the following communication, a female child, came under my care in February last, on account of general restlessness, cough, difficulty of breathing, debility, and emaciation. I had performed the accouchment of this child early in the preceding summer, when nothing peculiar was noticed; nor was there any appearance about the child, during the ordinary puerperal attendance, which attracted the attention of any one as being singular.

I learned from the mother, at my first visit, that the present complaints had been more or less troublesome for some weeks, and had been gradually increasing; though at times the child had appeared nearly free from distress, and was, even now, occasionally somewhat lively and playful. Of late the remissions had been less frequent, and of shorter duration.

The cough was not hard, yet exceedingly teasing and troublesome, because it occurred at almost every breath. The whole frame was slender and emaciated. The respiration was hurried, and the countenance anxious. The nails, the lips, the margin of the eyelids, and the lachrymal carunculæ were livid. There were numerous purple spots of irregular shape, and of from one to five lines diameter, on different parts of the body, but most numerous about the neck and back part of the head. The general surface of the body had little more of the *puer cæruleus* than is sometimes noticed, during cold weather, in young children that are healthy; and its temperature appeared no other than ordinary. At the wrist there was nothing entitled to the name of pulse; there was merely a tremulous motion of the artery; so, in the region of the heart, there was a confused agitation, which was very perceptible, and which was greatly increased by crying.

With such symptoms one could hardly hesitate to pronounce the disease to be one of defective organization. Palliative remedies were now and then prescribed, but with various success; and the little sufferer continued its struggles for life, with occasional respites, till it expired in May last, aged about eleven months.

Autopsic demonstration.—On laying open the thorax, the lungs were found natural in structure, and of the usual colour. The pericardium contained somewhat more than an ounce of serum of the common appearance. The body of the heart was of about the ordinary size, but the right auricle, as it presented itself. *in situ*, appeared to constitute more than one-third of the whole organ; and which, as also the cavas and coronary veins, were all engorged with coagula of black blood; so as to present the resemblance of a heart injected with black wax.

In proportion to the size of the heart, the aorta was unusually large, and stood forth very conspicuously, from its origin to its arch; not hid at its root, as usual, by the pulmonary artery. From an inspection of the external surface of the heart, it was evident that the anterior margin of the *septum ventriculorum* ran directly in a line drawn from the centre of the root of the aorta to the apex of the organ; thus dividing its anterior surface into nearly equal portions, and rendering the terms *right and left*, strictly applicable to the two ventricles.

The heart was now removed from the body, and by inserting the point of my scissors near the termination of the *vena cava descendens*, the right sinus and auricle, with a portion of the inferior cava, were laid open. These parts, after removing the black mass with which they were tense, were found natural in structure, but of more than three times their ordinary capacity.

The left auricle was in no respect peculiar, except being perhaps somewhat smaller than natural. There was a free communication between the auricles by the *foramen ovale*.

The cavities of the ventricles were now exposed by longitudinal incisions near to and parallel with their septum. Their parietes were of the ordinary strength and firmness, but, the reverse of what is usual, the walls of the right ventricle were of more than double the thickness and strength of those of the left. The *columnæ carneæ* were also proportionally stronger on the right side. The *septum ventriculorum* was wanting at the base of the heart, terminating by a rounded edge, nearly half an inch before reaching the mouth of the aorta, with which it was in a line. So that the finger might be passed with ease from one ventricle to the other, and, with equal ease, from either ventricle, through the common opening, into the aorta.

There was also noticed a deficiency in the auricular valve of the right side, so that it formed, when closed, but an imperfect septum between the auricle and ventricle.

The aorta, which as before said, was of extra size, had also its coats of unusual firmness and thickness.

The pulmonic artery was seen lying on the left side of the aorta, small and colapsed, having its coats thinner than those of the *venæ cavæ*. It was attached to the external surface of the left ventricle, just before and to the left of the aorta, where it commenced in a cul de sac of about three lines diameter; but became gradually larger, and its coats thicker as it approached its bifurcation. It received its blood from the heart through the *ductus arteriosus*, the diameter of which did not exceed one-third of its usual diameter, as it ordinarily appears at birth. Diminutive as it was, however, it constituted the only avenue from the heart to the pulmonary artery; and of course the only one through which blood could approach the lungs for the benefits of respiration.

The deviations from the natural structure of the heart, in the above case were greater, on the whole, than any I remember to have met with on record. And, constituted as is the human species, it would have seemed almost incredible, *a priori*, that life could be so long sustained, under malformations

so momentous and embarrassing. Ordinary amphibiæ and animals of cold blood, are so constructed and tempered, that little change from respired air suffices; one half their mass of blood or even less, thrown to their organs of respiration, in the course of general circulation, constitutes, so far, the perfection of their nature. They require but a single heart; a vein and auricle to collect and contain the blood, and a ventricle and artery to receive and distribute it. But, in the case before us, we have a human being supporting life for many months with a heart less fitted to its nature than would have been thatof a newt, a frog, or even a tortoise; for though, like them, it had what was virtually a single heart, it had not the ordinary perfections of such an organ; and the quantity of blood which received the salutary influence of respiration must have been comparatively far less than in animals of that simple mechanism. The defect in the right auricular valves must have embarrassed the circulation of the right side, by allowing the ventricle, at each contraction, to give a retrograde impulse to the blood of the sinus and great veins; and this, so far as it operated, must have diminished the force with which that ventricle acted on the aorta. But the impulse thus given by the ventricle to the venous blood of the right side may, in some degree, have compensated for its impediment to the general circulation, by adding impetus to a current of blood from the right, through the *foramen ovale*, to the left auricle. For, on considering the size of the *ductus arteriosus*, the only arterial avenue in this case for the blood of the lesser circulation, it will appear, that the left auricle could have derived but an inadequate supply of blood from the pulmonary veins, and that, in all probability, it was indebted for a supplemental portion to an influx, through the *foramen ovale*, from the right auricle.

Where there exists, as in the present case, a direct communication between the ventricles of the heart; and where, too, as in this instance, there is great inequality in the powers of the two sides, and in the forces respectively exerted at each

contraction, a question of some interest arises, as to the effect which such a state of things may be supposed to have on the action of the organ itself, and on the aortal circulation. At first thought, it might seem probable that the stronger ventricle would overcome the weaker, and at each contraction, force a current of blood into it; and such indeed would be the fact, were the two forces brought precisely to a state of counteraction; that is, the stronger ventricle, which might be supposed to act with a force as 5, would overcome the exertion of the weaker ventricle, acting only with the force of 3, and drive into it a current with a momentum equal to a force of 2. But in this case, there was presented to the blood on either side of the *septum cordis*, when acted on by the ventricles, a point of non-resistance, at the mouth of the aorta. And the opening between the ventricles being common to them and to the aorta, and each ventricle necessarily driving its current of blood where there was least resistance, the two currents must have taken a like direction, that is, the direction of the course of the aorta; where they at once formed a common current. But though the two forces, thus acting, did not oppose, they must have modified each other. And supposing that each ventricle gave out like quantities of blood, and the strong right ventricle communicated a momentum represented by 6, while that of the left was equal only to 3, the common current of the aorta, without difference of friction, would be 4. 5. But if the strong ventricle expelled double the quantity of the other, at each contraction, the momentum given to the common current would be represented by 5; and so in the same proportion, as the relative quantities might vary.

We perceive, then, without going into the consideration of other symptoms equally easy to be explained, why in this case there was an enfeebled general circulation; which was rendered still more inefficient by a circumstance before alluded to—the imperfect condition of the right auricular valves.

There was a wasting of the body, in this instance, so remarkable, that the father, a gentleman of education and in-

intelligence, insisted that his child was pining for want of nourishment, and often proposed to change its nurse; indeed, there was the general appearance of an ordinary case of atrophy. And it appears to me, that wherever there is an imperfect respiration, there is a somewhat proportionate tendency to the same state. The organs of digestion may be well supplied, and well perform their function; the nourishment from that quarter may also have its proper distribution; but with a defective respiration, the whole system will droop. So where, although the lungs retain their proper organization, and the air have free access, yet the blood being from any cause, as in this instance, shut out from their influence, the result is the same; the purposes of respiration are equally interfered with, and the whole body becomes enfeebled. Indeed, it seems to be principally through the medium of the heart and lungs, that exercise increases muscular strength. And so intimately are these organs connected with the brain, that there appears to be a sort of circular dependence subsisting between the three. For red, or what has been denominated oxydized blood, its character being considered the result of respiration, seems requisite to the vigorous action of the heart; and a certain degree of force and vigour in the action of this organ, is necessary to the healthy functions of the brain; which itself, in turn, supports and controls that process by which the blood is renovated in the lungs. So that, although the action of the heart depend but remotely on the brain, yet it is the latter organ which supports respiration, a process so necessary to the function of the former. Indeed, so vitally important are the functions of these great organs to each other, and that of each and all to the welfare of the whole system, that any great deviation in the performance of either must result, sooner or later, in the extinction of life.

From cases of malformation like this, inferences must inevitably be drawn affecting the doctrine of respiration, and the production of animal heat. It has been considered that the low temperature of cold-blooded animals, so called, is

principally owing to the small quantity of air respired; and that the use of respiration in all animals is not only the production of heat, but also to change the nature of the venous blood, and thereby to increase its capacity for the heat thus generated; so that by its arterial distribution to all parts of the body again, and gradual change to the state of venous blood or blood of diminished capacity, it may evolve its heat in a sensible form, and thus preserve the requisite temperature throughout the whole system. And all this has been supposed to be effected, this change of venous to arterial blood and the production of animal heat, simply by the combination of the oxygen of the respired air, with the carbon exhaled from the branches of the pulmonary artery.

Such, if I mistake not, is, in amount, the doctrine on this subject at present received. And how far cases like the one above stated may go to invalidate it, I cannot presume to decide. It may not, however, be improper to suggest, that from the size of the vessel through which blood was thrown to the lungs in this case, the *ductus arteriosus*, it is evident that the proportional quantity admitted to these organs must have been so small as to have constituted, according to the received theory, a cold-blooded animal; for it is to be recollected, that although the circumferences of the vessels are as their diameters, yet their areas are as the squares of their radii; and, as was before observed, excluding the blood from the air must produce the same result, so far as we can perceive, as excluding the air from the blood. The quantity of blood sent to the lungs in this instance, could not by estimation have exceeded one-tenth of the ordinary proportion; and supposing that the subject of these remarks would ordinarily have inhaled at each inspiration, one-fourth the quantity of air taken in by an adult, (which is probably near the truth,) the portion admitted to the lungs at each inspiration, in order to correspond with the portion of blood it would meet there, might have been reduced, as appears by calculation, to about one cubic inch! How then was the necessary quantity of

heat generated by respiration in this case? And, if generated, whence was the increased capacity for caloric derived, to provide for its absorption and distribution; since so small a proportion of the blood of the aortal circulation could have acquired the arterial character?

We must surely resort to some new theory for an explanation, and probably shall adopt, as the conclusion of the whole matter, what was originally, I believe, the suggestion of Bichat, that animal heat is an emanation of vitality, and not evolved by any one set of organs. This must, of course, place the subject without the pale of experimental inquiry.

New-York, December, 1823.

Art. VII.—*A proposed Improvement in the Construction of the* Catheter. By Edward G. Cooper.

It has struck me that the common catheter might be much improved in its construction, so as to enable it frequently to overcome difficulties when the usual attempts at introduction had failed. The improvement which I would suggest, has the advantage of adding no complication to the instrument; and if my conceptions concerning it be correct, of being more generally applicable to *all* cases that require the introduction of the catheter, bougie, or even of the caustic.

The proposed change consists in having the common form of catheter made of a larger size: this is perforated at the extremity, entering the urethra, with a hole about one-third of the diameter of the whole instrument, more or less; through this passes a stilet of a size just sufficient to go through freely. In addition to this, the head of the stilet should be enlarged, for the purpose of giving a more convenient hold, and of regulating its position at the head of the instrument. To retain the extremity of the stilet exactly in the aperture of the catheter, two cross-bars are attached to the stilet, opposite

to the head of the catheter. These form the only changes in the instrument from that of the most common and simple form of catheter.

The advantages gained by this arrangement, I believe to be numerous.

1. It is obvious, that when the catheter is prevented from passing through the urethra, it is stopped directly at the point of the obstruction; and as the catheter fills nearly or quite the whole diameter of the canal of the urethra, the centre of the obstruction (particularly if the stricture is inflammatory or spasmodic,) will be directly opposed to the centre of the catheter; hence the stilet, from its central position to the stricture, and also from its less size, must in almost all cases where the urethra is at all pervious, pass through with much less opposition than any catheter, and often with hardly any.

2. The stilet having been passed beyond the extremity of the catheter, and through the obstruction, by retaining it in its advanced place, the catheter may be urged along on this, with any force that may be requisite, without the least risk of serious injury, much less a rupture of the urethra, until it arrives at the extremity of the stilet. It *must* pass on this latter; and it is as impossible for it to escape out of the urethra as it would be for the angle of a common sound or catheter.

3. The most frequent use of the instrument would be in those cases where the catheter passes on with difficulty, or is stopped accidentally, not by any disease in the parts, but by a fold in the lining of the urethra; by too great pressure on the sides of the canal; or by inserting itself into some of the larger lacunæ; or by any mis-direction of the instrument. In these cases, the instrument should be withdrawn a little, and the stilet then pushed forward: and here again, as the difficulty is always in some part of the sides of the urethra, and as the stilet passes out of the catheter into the very centre of the urethra, it will go by the obstruction without the least resistance. When the catheter goes beyond it also, the stilet being replaced in its proper situation, it may again be used as a common catheter.

4. In addition to all this, it does not complicate the instrument commonly in use, nor does it add any inconvenience to its introduction in common cases. The catheter being introduced in the common way, will pass like others into the bladder, and by withdrawing the stilet, will let the urine flow with the same ease as a catheter of the usual construction.

The catheter used should be of a larger size than the common one, particularly when used in inflammatory ischuria, or in spasmodic stricture, as by this means, the stilet will be brought into a position more central to the urethra.

There will be no necessity of having any apertures along the sides of the instrument, as there are in other catheters, the effects of which are greatly to weaken the instrument, and not unfrequently to cause much of that irritation and excoriation that follows their use.

The size of the stilet gives it a great additional strength.

There may be an advantage gained in having a variety of stilets, as, of steel, or of elastic metal, or lancet shaped, and probably a *square one*, in cases of permanent chronic stricture. The introduction of a *smaller catheter* in this way, would often be highly useful and save the necessity of *advancing* the main catheter still further on.

By the proposed improvement, the bougie, or caustic, particularly the latter, can be introduced with great convenience and ease. The application of caustic *of every kind* in this way, has a great superiority over the ordinary mode, in which it is passed down naked, and in contact with the whole course of the urethra, and even when arrived at the place of the stricture, is more likely to act on one side of the urethra than on the centre of the stricture. Bell, Home, and others, have confessed, that its application was often followed by copious hemorrhage from the corpus spongiosum, or bulb of the urethra.

All these means could be applied through the one canula, without any of the irritation to the canal of the urethra, which

necessarily follows the repeated introduction of *various* catheters, &c.

When the urethra is impervious, and it is required to open it, this is the instrument required, and it is one very similar to this that Dr. Physick uses in this case.

The main advantage, however, of this instrument, is the *universal applicability* of it, as well as its simplicity and economy; for it is even simpler, stronger, and more durable, than any other of the common form.

To the poor country practitioner, who cannot possess himself of all those convenient varieties of instruments to be found in a city, but must usually content himself with a single one, of any form, it must be of immense importance to have all the advantages of these various instruments combined in one.

Another important consideration is, that this modification of the catheter will be more especially useful in those cases of obstruction which are most general, viz. spasmodic and inflammatory constrictions; as these must contract all sides of the urethra alike, any opening through them must be directly opposite the centre of the extremity of the catheter, and consequently of the stilet.

Another, and probably equally important point gained, is the *force* that may be used with the greatest safety. When the stilet has been advanced, if it be properly supported, the catheter may be *forced* onward, with no other possible injury than a little excoriation. Every practitioner has no doubt seen the frequent ineffectual attempts to introduce the catheter, of every variety in succession: in many cases, when he is sensible that but for the uncertainty of not doing injury, a little additional force would instantly have relieved the patient. With the common catheter, to apply this necessary force is not unattended with danger.

Of all patients, none interest the feelings of the physician so much as one labouring under a distension of the bladder. Perfectly in his right mind, and sound in body, except his local affection, without a moment's intermission from the most

horrid and appalling agony, his sensibility increasing with his misery, conscious that death is rapidly approaching, without any of those introductories that in other cases renders its anticipation less obnoxious, his agony and pain increasing every moment, and death more near.

The physician knowing the instantaneous relief that may be given, how sensibly must he also feel when he finds all his attempts unavailing, and the repeated attempts to introduce the catheter but increasing the misery of his patient.

It was a situation like this, that led the immortal Hunter to force the catheter onward through the coats of the urethra, and then again through the parietes of the bladder, hazarding the event, to avert immediate death, and if the expression be allowable, risking life to save it.

A repetition of these melancholy scenes will, I hope, in future, be obviated, by the adoption of this improvement.

Brooklyn, Sept. 16, 1823.

ART. VIII.—THE HISTORY *of a Case of Ulceration and Perforation of the Stomach, accompanied with Remarks.* By JOHN B. BECK, M. D.

IN the month of January, 1820, I was requested to visit Mrs. P—, aged sixty years, who I learned had been ill for some months previously. I found her labouring under very decided symptoms of hydrothorax, together with œdema of the lower extremities. The difficulty of breathing was so great, as to render the recumbent posture utterly impracticable. She complained of no pain nor uneasiness in the region of the stomach, and was not troubled with nausea or vomiting, although her appetite had in a great measure left her. From the hopeless condition in which the patient was found, it was evident that nothing could rescue her from speedy dissolution. Some medicine, however, was ordered, which she took very

readily, and retained on the stomach, as she did also all her drinks and nourishment. No relief was obtained, and she died in a few days after I first saw her.

Dissection.—Leave being obtained, my friend Dr. James K. Platt, at present Professor of Surgery in the University of Vermont, and myself, opened the body on the morning succeeding the day of the patient's death. In the chest were found traces of considerable previous disease. Extensive adhesions of the pleura to the parietes of the chest had taken place. The extremity of the left lung was indurated, and instantly sunk on being put into water. Within the pericardium and in the cavity of the chest nearly a quart of fluid had been effused. On opening the abdomen, the liver was found in a perfectly sound condition, as were also the pancreas and spleen. Greatly to our surprise, the stomach was discovered to be the seat of very striking and interesting morbid changes.* The whole of the inner surface of this organ presented a highly florid and vascular appearance, and along the lesser curvature there were *five ulcers*, one of which, situated about midway between the cardia and pylorus, had penetrated quite through the different coats of the stomach, and formed a circular hole of about the size of a shilling. The remaining four ulcers were of various sizes, not differing much, however, in this respect, from the one just described. The edges of the ulcers were a good deal thickened, and very smooth. This was more especially the case with the one which perforated the stomach. All of them were surrounded by the vascular appearance already mentioned as characterizing the inner coat. None of the contents of the stomach had escaped into the abdomen. That this had not taken place is to be ascribed entirely to the situation of the perforation. The stomach itself was found to contain about a pint of fluid. It will readily be imagined that the morbid appearances just described were wholly unexpected, as we had not been aware that any symptoms of a diseased state of the stomach had been betrayed before death.

* This stomach is at present in my possession.

With the view, however, of obtaining more accurate information on this point, we inquired more minutely into the previous history of the patient, and ascertained that she had been asthmatic, but that she had never complained of pain or uneasiness in her stomach; had never been troubled with vomiting; and that her appetite had remained tolerably good until three or four weeks of her death.

OBSERVATIONS.

Ulcerations of the stomach similar to those which have just been recorded, although not wholly unnoticed by preceding writers, are of so rare occurrence, that their symptoms and causes are as yet very imperfectly understood. Even Dr. Baillie, who has described with graphic accuracy the morbid appearances peculiar to them, is by no means so full and satisfactory in his account of the symptoms as could have been wished. There is one circumstance especially connected with their history which he has failed to notice; and this is, that they may frequently go to the length even of perforating all the coats of the stomach without having the fact betrayed by a single symptom. The case which I have just recorded proves this in a very striking manner. There was certainly no evidence present before death of any diseased condition of the stomach, and the death of the patient was entirely owing to the dropsical affection of the chest. There is every probability too, that had she not fallen a victim to this latter disease, she might have lived a very considerable time longer, notwithstanding the ulcerations in her stomach. The same general fact is confirmed by the history of several other cases found on record.

That accurate observer, Dr. Pemberton, states that he has often been surprised to find very extensive mischief in the structure of the stomach, without the constitution being sensibly affected by it, provided the mischief was so situated as not to interrupt the passage of the food. In confirmation of this, he relates that he had seen a large schirrus in the stomach,

near the pylorus, with an open cancer in one part of it, which had made its way through the stomach, and through the left lobe of the liver; and an adhesion had taken place between the sides of the abscess and the peritoneum; so that, he adds, "had not the patient been taken off by a disease in the aorta, I have no doubt but that this abscess would have made its way out through the integuments of the abdomen. Still, however, though this must have been a disease of very long standing, the body was but little emaciated, and the patient *had never shown any symptom by which such a disease of the stomach could possibly have been suspected.*"*

Dr. Crampton, Professor of Materia Medica in Dublin, has favoured us with the history of another case of ulceration of the stomach, succeeded by perforation and the subsequent effusion of the contents of the stomach into the cavity of the abdomen. The patient was suddenly seized with severe pain in her stomach, succeeded by the most agonizing pains in the whole abdomen. These continued without the least abatement until the moment of her death, which took place a very few hours after her first seizure. On dissection, there were found decided evidences of inflammation throughout the whole peritoneum, excited unquestionably by the escape of the contents of the stomach; and to this cause must the death of the patient be attributed. From the appearance of the perforation in the stomach, and other attending circumstances, it seems certain, that the disease must have been of some considerable continuance; and yet there do not appear to have been any marked symptoms present by which it could have been detected. All that we are told of her previous history, is, that "she had been subject occasionally to pain in the stomach, as well as in both the hypochondria, but that they generally gave way to medical treatment of a few days."†

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* Practical Treatise on various diseases of the Abdominal Viscera, p. 129. Am. Edit.

† Medico-Chirurgical Transactions of London.

To the case of Dr. Crampton, Mr. Travers, of London, has added two or three others, confirming very strikingly the same general fact. In all of the cases related by this gentleman, the patients fell victims to the peritoneal inflammation, excited by the effusion of the contents of the stomach; and in every instance, with a single exception, had they enjoyed good health until this effusion took place. I am aware, that it may be objected, that as there is no positive evidence of any previous organic derangement, the perforation or rupture of the stomach may have taken place suddenly, without any antecedent ulceration. This explanation, however, is inadmissible. The absence of any adequate cause to produce such a sudden rupture of a healthy stomach, in the cases which have been referred to, as well as the appearances of the ulcers and perforations themselves, render this supposition wholly untenable. Nothing but the existence of a slow and protracted ulceration can at all account for these phenomena. That such ulceration does take place, and that it is followed by the consequences just mentioned, we have the very best possible evidence, even independent of that already adduced.

Mr. Benjamin Gooch, in his chirurgical works, details the particulars of a very extraordinary case, in which an opening was made into the stomach, as the result of a slight external injury received twenty years before. After receiving the injury, it is stated that the patient had transient wandering pains in the epigastric region, but never violent. In this state she remained ten years, when she was seized with an accidental fever, during the continuance of which the pains increased, and a small flat tumour appeared over the bottom of the stomach, without, however, any external inflammation, or throbbing, and unattended by any pain upon pressure. At this time she had no complaint in her stomach. When the fever left her, she regained her former health, and continued ten years longer with very slight pains in the stomach and abdo-

men, but never to such a degree as to be troublesome. At the expiration of that period, she was again attacked with fever, when the tumour became inflamed and enlarged, and finally burst, discharging through the opening the contents of the stomach. After this she was well enough to go about her ordinary business—"food agreed with her stomach; she had no sickness," and was not costive. She lived several months after this, and died of fever, brought on by an imprudent exposure to cold. On dissection, the stomach, around the orifice, was found adhering to the peritoneum, and by this kind provision of nature the contents of the stomach were prevented from falling into the cavity of the abdomen.*

Dr. Male, of Birmingham, relates the case of a female, aged fifteen, who had been complaining for two or three days, of slight pain in the bowels, when she was suddenly seized with symptoms of enteritis. Her countenance was pale and ghastly; pulse 150; bowels costive, &c. She expired in a few hours after the attack. On opening the body, appearances of general inflammation were found in the abdomen. "The stomach was empty, and appeared partially inflamed; and in the superior part, near the cardia, was a foramen, nearly circular, about three quarters of an inch in diameter, perfectly smooth and regular; it had not at all the appearance of having been eroded by the gastric juice, or of being the effect of *recent* inflammation. On the opposite side of the same organ was another foramen, nearly of an oval form, not quite half an inch in length, which, however, did not perforate the external coat of the stomach, but had, apparently, formerly done so, and afterwards become closed, and the edges united by a cicatrix; the other parts of the stomach were perfectly sound."

Dr. Male states, that on inquiry he found the patient had an attack of gastritis and enteritis, about four years previously, since which she had been troubled with occasional pains in her stomach.†

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* Gooch's Chirurgical Works, vol. iii. p. 163.

† London Medical and Physical Journal, vol. xiii. page 164.

From an analysis of the foregoing cases, as well as a few others which are upon record, I think we may deduce the following conclusions:

1. That the peculiar ulceration of the stomach, just described, is very slow in its progress.

2. That it is frequently unattended by any symptoms indicative of its existence.

3. That of the symptoms mentioned by Dr. Baillie, "pain or an uneasy feeling in the stomach," is the only one usually present; and that vomiting seldom occurs.

4. That with the exception of the ulcerated portion, the stomach is generally found healthy.

5. That no immediate danger to the life of the patient, attends simple ulcers of the stomach.

6. That where death does ensue, it is generally the result of peritoneal inflammation, excited by the ulceration having perforated the stomach, and the subsequent effusion of the contents of that organ into the cavity of the abdomen. When this event takes place, no hope is left for the patient. Death seems inevitable. The symptoms attending this state, are very well described by Mr. Travers, and are the following:

1. Sudden, most acute and unremitting pain, radiating from the scrobiculus cordis, or the navel, to the circumference of the trunk, and even to the limbs. "I may add," says he, "a peculiar pain, though I know not how to describe the peculiarity. Its intensity, like that of parturition, absorbs the whole mind of the patient, who, within an hour from the enjoyment of perfect health, expresses his serious and decided conviction, that if the pain be not speedily alleviated, he must die."

2. Coeval with the attack of pain, remarkable rigidity and hardness of the belly, from a fixed and spastic contraction of the abdominal muscles.

3. A natural pulse for some hours, until the symptoms are merged in those of acute peritonitis, and its fatal termination in the adhesive stage.*"

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* Medico-Chirurgical Transactions, vol. viii. p. 244, 5.

I have hitherto refrained from saying any thing concerning the *causes* of ulcers in the stomach. These I shall now attempt briefly to analyze, with a view, if possible, of throwing additional light upon this obscure subject.

1. External injuries, as blows, &c. upon the region of the stomach. In the case of Mr. Gooch, already recorded, there can be no doubt that this was the cause, although the injury was received twenty years before. As there was no external appearance of inflammation in this instance, it is probable that the stomach was primarily affected by the injury received; but it is impossible to determine whether the peritoneal or mucous coat was first affected. At any rate, however, it makes us acquainted with a possible consequence of slight external injuries about the region of the stomach, of so serious a character, that every possible precaution should be adopted to obviate their effects.

2. Previous disease of the stomach. In the case of Dr. Male, already related, an attack of gastritis, four years before, seems to have been the only assignable cause.

3. The accidental introduction of some poisonous substance into the stomach. I am not positive that this has actually been a cause of ulceration in the stomach, although it is more than probable. Dr. Pascalis records a case of perforation of the stomach, with which it appeared that the patient had lived five or six years. On dissection there was discovered a large aperture, of the size of a dollar; and in the cavity of the stomach a large tumour, formed by several branches or roots, proceeding from the internal edge of the aperture in the fundus, and lined with a strong membrane, resembling the villous coat of the stomach. Dr. P. informs us that the patient was a painter and glazier by trade, and must have been exposed to the accidental introduction of arsenical or other deleterious matters into the stomach*

4. Improper and stimulating food, as well as the too fre-

* Medical Repository, vol. xviii. p. 287.

quent use of certain medicines, may doubtless in some instances have caused it, although I have not met with any particular case in which it could be traced to this source.

It was my intention originally to have added some observations concerning the diagnosis of ulcers in the stomach, the solution of the stomach by the gastric juice after death, and the morbid appearances observed in cases of poisoning. It would, however, extend this paper to too great a length to enter upon the examination of this subject, and indeed it is one of such just interest and importance, especially in its relations to medical jurisprudence, as to require a more detailed elucidation than could well be given to it on the present occasion.

Art. IX.—Remarks *on* Inflammatory Dropsy; *with a case.*

By Edward G. Ludlow, M. D. of New-York.

The frequent occurrence of dropsy, and the small comparative success attending its treatment, are sufficient inducements for detailing a case, which is interesting principally from its successful termination.

Formerly, hydropic affections were considered exclusively the result of diminished absorption, or as symptomatic of glandular obstruction; recent observations have, however, clearly shown, that they are frequently caused by an increased momentum of the blood, and that the effusion may be considered a salutary effort of the constitution to diminish this morbid excitement.

In cases of this nature, the practitioner has not to maintain a hopeless warfare with a broken-down constitution, which not only renders abortive his best directed efforts, but jeopardizes the reputation of the remedies employed.

The following case may be termed strictly idiopathic, caused by the action of a damp atmosphere on the surface of the body when heated, suddenly interrupting the cuticular dis-

charge, and thus inducing an excessive impetus in the arterial system.

Among the depletives used, were the squill, venesection, the asclepias syriaca, and digitalis.

That the action of diuretics is promoted by the reduction of arterial excitement, is evidently shown in the present case by a comparative estimate of the quantity of water evacuated before and after venesection. It is correctly observed by Dr. Chapman, that the blood vessels and lymphatics are antagonising powers, and that while the former retain their force, the functions of the latter are but feebly exercised; this has been satisfactorily proved by the experiments of Majendie.

The asclepias syriaca has been but recently introduced into our materia medica; another species, the decumbens, has long been celebrated in pneumonic inflammations, but has no specific action as a diuretic. I was induced to try the former, from its reputed success in many hopeless cases of dropsy in the State Prison of this city. In the present instance, it cannot be said to have been fairly tested, but from subsequent trials, I consider it to have been much overrated.

Apart from the existing prejudice against digitalis, its efficacy as a diuretic, after the tone of the system has been reduced by other depletives, is daily corroborated. In the present case, it had a considerable share in effectually removing the disease. According to Blackall, the viscera not being affected, the urine should have coagulated, but it retained its transparency both on the application of heat and nitrous acid.

Charles Davis, shoeblack, aged 48, of athletic make, and robust constitution, applied to me on the 20th of September, last; he was universally anasarcous, with suppressed cough, and a sense of weight in epigastrio; his bowels were constipated; his urine scanty and high coloured; pulse about 70, full and soft.

He had slept, the evening previous, in a cellar, in which he pursued his occupation, and which was usually damp, and but partially protected from the external air; and being much

heated, had washed his whole body with cold water, after which he was seized with chills and febricula, to which the effusion succeeded.

He was ordered sulph. magnes. ℥j. The next day the abdomen was greatly distended, and fluctuation evident; his bowels had been thoroughly evacuated by the salts—he was now given pulv. purg. ʒj. with an injunction to live low, and to use diluents freely.

22d. The hydragogue had operated briskly, and had much relieved the orthopnea, but his bulk was not sensibly reduced. I now put him under a course of pill. calom. et scillæ, with pulv. doveri, gr. v. every two hours, which was continued until the,

28th, When his gums becoming tender, it was discontinued. During this interval, the quantity of water evacuated had not exceeded four pints per day; his pulse had increased to 80, and was hard and full; tongue slightly furred; skin dry and parched. ℥xx. of blood was now drawn, which coagulated immediately, and was both cupped and buffed, as much so as in pleuritis.

29th. His pulse was somewhat softer, but increased in frequency; he was given ʒj. pulv. purgans.

30th. His bowels had been fully evacuated, and more water discharged than at any previous period; pulse 88; soft skin, cool and moist, tongue little furred, and he could now lie down with ease.

October 1. I now directed him to drink freely of a decoction of the Asclepias Syriaca.

2d. His abdomen and limbs were sensibly reduced; he had some appetite, and had slept well.

3d. Much better.

4th. Ditto.

5th. Extremities nearly of natural size; abdomen much lessened; passing urine in considerable quantities.

6th. Continued thus daily improving till the,

9th, When he relapsed, his pulse becoming hard and full, with obscure fluctuation in the abdomen; skin hot and dry

I now considered his case a proper one for the exhibition of digitalis, and he was accordingly ordered gt. xx. of the tincture three times per day, with directions to increase gt. v. at each dose.

10th. Had passed much water, and was greatly improved.

11th. Abdomen of the natural size; appetite good; tongue nearly clean. He was now directed the infus. amara. with generous diet, after which he speedily recovered.

Art. X.—A Case *of* Hydrocephalus *successfully treated.*—By J. Smyth Rogers, M. D.

To the Editors of the New-York Medical and Physical Journal.

Gentlemen,

Should the following case of hydrocephalus appear of sufficient interest to command a place in your Journal, its insertion will oblige your obedient servant,

J. SMYTH ROGERS.

New-York, Nov. 24, 1823.

On the 15th March, 1822, I was requested to prescribe for M. C., a child aged seven months. Her mother stated that at birth she had every appearance of a healthful child; when about a fortnight old, she was affected with constipation of the bowels, which resisted the ordinary domestic remedies for several days: before it was relieved, the most violent convulsions supervened, recurring at first several times through the day and night, but gradually diminishing in frequency and severity for nearly two weeks, when they left her altogether. From this time the child's head began to enlarge, and became distorted, while the aspect of health which she had during early infancy, was lost. When brought to me at the Dispensary, the head was much out of proportion to the body, and very irregular in shape, the right side being obviously larger

than the left; both the fontanelles were open, and the ossification of the coronal and sagittal sutures so incomplete, that the finger might be laid between the bones; the eyes were protruded, staring, and constantly directed upwards; the face colourless; the pulse, natural as to *strength*, but irregular in its beat; the sterno-cleido mastoid muscles so far paralyzed, that the head, when unsupported by the mother's hand, fell back; the bowels so costive as to require the constant aid of art to relieve them; the stomach so irritable, that almost every meal was rejected. Indeed, the general appearance of the child, and the whole train of her symptoms, were such as to render the case apparently hopeless. In order, however, that nothing might be neglected which could afford the slightest chance of relief, I directed blisters to be applied to the ankles, (the position of the head rendering it impossible to apply one to the neck, without the risk of a painful and troublesome ulceration, from the constant restlessness of the little patient,) and an active cathartic to be administered, aiding its operation by enemata.

March 19th. The child was brought again to the Dispensary this day; the blisters had vesicated properly, but the purgative was ejected from the stomach, almost as soon as swallowed; the bowels had been opened by an enema. Hoping to lessen this irritability of the stomach, by the evacuation of any offending matter which might exist in it, I directed an emetic, and as the patient was rather more debilitated than when I first saw her, I preferred the mineral emetic, in form of Moseley's solution, which was accordingly prescribed; the bowels to be kept free, as heretofore, by enemata.

March 22d. The emetic operated freely, and the enemata produced free evacuations, but no passage was effected by the unassisted efforts of nature. The child appears more lively, and the mother states that its appetite is improving, and its stomach becoming more retentive. The solution of sulphate of zinc, (omitting the alum contained in the solution of

Moseley,) was directed, in doses of ʒij (gr. viij. to ℥j) every ten minutes, till vomiting should take place.

March 27th. The little patient has improved considerably in appearance; the face has assumed a more healthful aspect; the eyes are more lively; the paralytic affection of the neck so far relieved, that the head can be supported for a short time, almost in an erect position; the appetite is returning; the stomach has become retentive; bowels in a more natural state; the appearance of protrusion about the eyes considerably lessened, probably because the child directs them to surrounding objects more than it did. The mother states that it is much more lively at home than it has been for a long time. Solution of sulph. zinc. continued.

March 29th. Yesterday my patient was seized with spontaneous vomiting, and ejected from its stomach a large quantity of bilious matter: its appearance is much more unfavourable than on the 27th; the bowels are costive, and the stomach irritable. It appears probable, that the repeated emetics she had taken had caused a regurgitation of bile into the stomach, and that its presence there had given rise to the vomiting, and other unpleasant symptoms. An enema was directed to open the bowels; the other medicines to be discontinued.

March 30th. The enema operated, and the child appears somewhat better; no evacuation, however, had taken place since the injection; an eccoprotic mixture was ordered.

April 2d. The child is now as well as before the attack of the 28th ult. Recommence the emetic solution.

Having omitted to minute down the residence of this patient, I lost sight of her for some time, but on the 13th May, she was brought again to me by her mother, in consequence of the accession of pertussis, which attacked her about a fortnight previous to her return; the course formerly prescribed had been adhered to, and under it the child had improved so much, that the mother considered it entirely well, and had therefore absented herself. Although now labouring under the effects of hooping cough, she is decidedly better than when

I last saw her; she appears as lively as any child of her age; her complexion has become more clear and healthful; her eye intelligent; and notwithstanding her cough, she is active and sprightly. The fontanelles have closed, the ossification of the sutures is complete, with the exception of a small portion of the coronal on the right side, where there is still a depression; two teeth have made their appearance in the lower jaw. The cough is attended with nocturnal exacerbations of fever, and with frequent bilious vomiting; the mother states that she is affected with such profuse perspirations about the head, that it is necessary to change her cap "twenty times a day." The hooping cough was treated with the usual remedies, and although the child suffered considerably during its continuance, it eventually yielded to the course pursued. After the hooping cough was relieved, the emetic solution was again resorted to, and under its influence there was evident improvement.

On the 17th July, after an absence of five weeks, the mother again brought the child for examination; during the interval, the course prescribed for it had been pretty regularly adhered to; at that time, the fontanelles and sutures had completely closed; the head bore the same proportion to the body as in other children of the same age; and its figure was regular and natural, with the exception of a slight protuberance on the right side of the occiput; the eyes were lively and expressive; the cheeks had the tint of health; the pulse is perfectly regular and natural; the appetite good, and the stomach retentive; the bowels regular. Three more teeth had made their appearance; and there was nothing about the child which any longer indicated the slightest derangement of system; it was therefore discharged, as cured.

The above statement is taken from notes, made while the child was under my care. I have been thus particular in detailing the case, because we rarely meet with an instance of recovery, where every circumstance is apparently so much against the patient. Its situation, when I first saw it, was

such as to impress me with the belief that no remedies could be of any avail towards the *removal* of its complaints; my first prescriptions were, therefore, rather made to satisfy the mother's anxiety, than with any hope that material benefit would be derived from them; they were repeated, from the evident improvement in the general appearance of the child after the lapse of a few days.

Art. XI.—Case *of* Obstinate Constipation *relieved by injections of spirits of turpentine.* By Spencer Wood, M. D.

Reading in the 1st volume of the New-York Medical and Physical Journal of the successful exhibition of spirits of turpentine by injection, in cases of long continued constipation, I was induced to make trial of it, as a dernier resort, in a case of this nature that lately came under my notice.

Mrs. P., a lady aged thirty, was attacked with remittent fever, accompanied by such extreme and obstinate irritability of the stomach, as to baffle the most judicious prescriptions. Retching and vomiting not only set in at every accession of fever, but continued extremely harassing during the exacerbation, and gradually subsided only on its decline.

This untoward symptom was attributable more especially to two causes: a gravid uterus, and a torpor of the intestines. To remove the latter cause, various cathartics, active as well as mild, calomel to the point of moderate ptyalism, emetics of tart. ant. and ipecac. and frequent enemata were administered, without answering the intention of their exhibition.

She had gone nineteen days without a motion, when I sent her a bottle of the turpentine injection, prepared as directed by the writer of the article on this subject, in the 1st volume of your Journal: ℥i. spts. terebinth. ℥viij. aquæ; and ordered the half to be given at once, and the remainder in two hours,

if necessary. My directions were followed, and each injection brought away a small quantity of hardened fæces. On the following day, I sent her a bottle composed of ʒifs. spts. terebinth. to ʒviij. of water, which was given as the former, and with equal success; and some days after, conceiving the evacuations which had been procured insufficient to be of permanent service, I prepared her another bottle of the injection, composed of ʒi. and ʒvj. to ʒviij. aquæ, and directed it to be given as before. This occasioned a copious discharge of hardened fæces, and the patient experienced very considerable relief. From that time the intestines were aroused from their torpor, and an adequate peristaltic motion re-established.

The success which has followed the exhibition of this medicine, in this instance, will warrant a further trial of it in similar cases. It caused less pain and tenesmus than, *a priori*, one would suppose.

REVIEW.

ART. I. AN *Account of the* YELLOW FEVER, *as it prevailed in the city of New-York, in the Summer and Autumn of* 1822. By PETER S. TOWNSEND, M. D. &c. New-York: 1823. pp. 383.

A HISTORY *of the proceedings of the Board of Health, of the city of New-York, in the Summer and Fall of* 1822; *together with an account of the rise and progress of the* YELLOW FEVER, *which appeared during that season, and the several documents in relation to it, which were laid before the Board. Published by order of the Board of Health.* New-York: 1823. pp. 270.

WHETHER the Yellow Fever be a contagious disease or not, is a question which has long agitated the medical world, and which it does not seem probable will very soon be settled. It is true, indeed, that in this country a very triumphant majority of the profession have united in the disbelief of contagion, as appertaining to Yellow Fever; yet even here, as well as in Great Britain, are to be found arrayed in defence of the opposite doctrine, not a few of the brightest names in medicine. Whatever may have been the cause of this discrepancy of opinion, the fact itself would seem to prove, that it is a subject which must be surrounded by very great and numerous difficulties. That it is so in reality will not be questioned by any candid man, however fervid may be his enthusiasm in the defence of the particular creed which he may have adopted.

Deeply impressed with this conviction, we had long hesitated in making up a definite opinion on this subject, until actual observation and personal experience should have enabled us to form a more unbiassed judgment than could well be done from the jarring sentiments and conflicting statements of controversial writers. It was with the deepest solicitude, therefore, that we watched the origin and progress of the late pestilence, which desolated the fairest portion of our city. And during its course, facts so abundant and striking were developed, as to produce a positive and complete conviction upon our minds, that contagion had nothing to do in the propagation of the disease. These facts we propose at this time to record, accompanying them with such explanations and reasonings as they may seem to require.

The believers in the doctrine of the contagious character of Yellow Fever, may be divided into two classes. 1. Those who contend that the disease is contagious under all circumstances, and that it may as readily display this character in the pure and healthy air of the country, as it does in the confined air of our cities. 2. Those who admit that in the pure air of the country it is seldom if ever contagious, while in the impure and vitiated atmosphere of our cities it proves extensively so. Both classes, however, agree in this; that every case of the fever which occurs, must result from contagion, as they do not admit the existence of any other cause capable of producing the disease.

As we wish to meet both these views of contagion, the following facts shall be arranged under two heads:—Those which prove that the Yellow Fever of 1822 was not contagious in the pure air of the country:—Those which prove that it was not contagious in the vitiated and impure air of our city.

I. From the official returns of Dr. Joseph Bayley, Health Officer of the port, it appears that during the prevalence of the Yellow Fever in this city during 1822, seventy persons

sick with that disease were sent down to the Marine Hospital,* on Staten Island. Of this number thirty-seven died, eighteen of whom had black vomit. The first of these patients was received into the hospital on the 13th of August, and died on the 15th. From that period until the final cessation of the fever, patients were almost daily carried down to this place. These cases were regularly attended by the physicians and nurses of the establishment, not one of whom became affected with the disease, nor has a single case come to our knowledge of any person taking it, who was engaged in transporting the sick from the city to the hospital.

The bare statement of the foregoing fact, would seem almost sufficient of itself to settle the question, that the Yellow Fever of this season was not contagious. Aware of its important bearing, the advocates of contagion have displayed no small share of ingenuity in endeavouring to weaken, if not wholly to destroy its force. Dr. Townsend, without denying the fact itself, endeavours to account for it in the following manner:—"Of those taken to the Marine Hospital, at Staten Island," says he, "it may be remarked, that they were removed successively at distant intervals, and but two or three at a time, and therefore never accumulated. As the wards also of this spacious building, were kept in the most perfect cleanliness, and from the healthy situation of the building, exposed to the sea, are more roomy and airy than are to be found in most other hospitals; and as there were also but few or no persons sick in the house, of other diseases, during the whole of the epidemic, there was nothing for the contagion to operate upon. There are but two physicians attached to it, the Health Officer and Dr. Harrison; and no person was allowed to have any communication with the sick, but the three or four nurses of the establishment, who, like the physicians, had been long habituated to the care of Yellow Fever patients,

* Situated at the quarantine establishment, about six miles below the city of New-York, on the west side of the bay.

and were therefore less liable to take the disease, especially in the diluted condition in which the poison must have existed in the airy rooms of this fine building. Their effects, of course, were not allowed to accompany them." p. 64.

Now this explanation is equally unfortunate and unsatisfactory in point of fact as well as of argument. Let us briefly analyze it. In the first place, Dr. T. tells us that the patients were removed to Staten Island at "*distant intervals*," "and therefore were never accumulated." It is difficult to ascertain what precise meaning Dr. T. attaches to the word "distant," as applied to periods of time; but it is fairly to be presumed that something longer than twenty-four hours is intended. An interval of no greater length than this cannot certainly be considered as very "distant." If so, then Dr. T.'s statement is not correct as a matter of fact. This stands proved by the official report of the health officer. From an analysis of this document, it results,

1. That the whole period during which patients sick with yellow fever were admitted into the hospital, was sixty-eight days; and during this time seventy persons lay sick in it.

2. That of these sixty-eight days, there were thirty on which no patients were received; on the remaining thirty eight, from one to five patients daily were admitted.

3. That the greatest interval which elapsed between the admission of any two patients was eight days. This happened at the first breaking out of the fever in the city; towards its close, in the month of October, an interval of five days; and still later in the same month, another interval of seven days occurred. Of the other intervals, there were two of two days, and six of only a single day.

4. That during the whole sixty-eight days, the hospital could never have been entirely clear of patients; and that frequently there must have been from ten to twelve persons sick at one and the same time.

5. That from the 23d of August to the 30th of September,

a period of only thirty-six days, there were not less than fifty-six patients admitted.

On this analysis we deem it unnecessary to make a single comment. Every reader can judge for himself what those "distant intervals" were, which prevented the pretended contagion of yellow fever from taking effect.

But let us look at this argument in another point of view. Dr. T. asserts, that there were not a sufficient number of patients "accumulated" in the hospital to enable the contagion to develope itself. Now, if seventy patients lying sick in the same place, within two or three months, be not a sufficient number to develope contagion, how can it be contended with any sort of consistency, that a less number, under similar circumstances, will produce this effect? And yet such is the fact with regard to our author. In another part of his work which he devotes to contagion, he adduces several instances of what he calls "examples of the contagious nature of yellow fever," p. 12. in which it appears that most of these supposed cases of contagion resulted from intercourse with a *single individual* sick person. Indeed, almost every one of his examples is of this character.

From all this, the dilemma is inevitable. Either the seventy patients at Quarantine were abundantly sufficient to produce contagion, if any such appertained to the fever, or the whole of Dr. Townsend's cases of contagion fall at once to the ground. It is useless to urge a difference of circumstances in the two cases. Dr. T. has shut himself out from the benefit of such an explanation by boldly maintaining the unqualified contagion of the disease. In the very second page of his work, he announces this doctrine. "Had not," says he, "however, the late interesting discoveries of the Spanish and French physicians, concerning the laws of yellow fever, proved past all doubt that the theory of domestic origin, and of local filth, is utterly inapplicable to tropical as well as to northern latitudes, *and that this disease to all appearance pursues its course, independent of what in common language is un-*

derstood by a pure or impure air, we should have had more reason to wonder than we now have, that it began in the part of the town where it did." pp. 18, 19.

It is unnecessary to add any thing further on this head. It is self-evident, that as it regards the *number* and *accumulation* of patients, it is scarcely possible for them to have existed to a greater extent than they did at Quarantine. The total absence of contagion in this place, must therefore be attributed to other causes. Let us see if any such exist.

In the concluding part of the paragraph we have just quoted, Dr. T. assigns three additional reasons why the disease did not prove contagious at the Quarantine Hospital, viz. the cleanliness and airiness of the situation—the want of subjects upon which the contagion might operate—and lastly, the insusceptibility of the attending nurses and physicians. We shall, very briefly, take each of these in order. And first, of the cleanliness and airiness of the place preventing the operation of contagion. We presume no man will deny, that if this cause could prevent the development of a contagious character in the yellow fever at Quarantine, the same cause must produce the same effect in all other situations similarly circumstanced. This is plain and evident to the commonest capacity. Now it happens rather unfortunately for our author, that almost every page of his work supplies us with attempts on his part to prove contagion in the very places which he has shown to be pre-eminently distinguished for their beauty, cleanliness, and salubrity. Let us take, for instance, his description of the part of the city where the fever prevailed. "The situation of this part of the city, near the promenade of the Battery, and fronting the Hudson, the Bay of New-York, the Narrows, and the ocean, together with the spacious and airy avenues of Broadway, and Greenwich-streets, which run longitudinally through it, and near and parallel to each other; and the open, unprotected position of the store-houses which stand on the wharf, expose *the whole of this beautiful quarter of the city to constant ventilation, from all the cooler and*

purer winds of the horizon, and such as at the same time are the prevailing winds of our climate; the cold north and north west, rushing down the Hudson from the highlands, and the south-west and southerly breezes, which every afternoon of summer, sweep up from the ocean through the Narrows, and coming directly off the bay, render the air here always cool, agreeable, and refreshing." p. 18. "The wharf," in this part of the city too, "is substantially built, and being of the nature of a long quay, which runs parallel with the stores, and with but few recesses or projecting piers where filth might collect and become stagnant, as it does in the irregular slips on the east side of the town; *the current of the river freely and constantly washes by it, and keeps it always clean.*" p. 20. Again: "the yards of the houses in this part of the city, in correspondence with the buildings to which they belong, *are almost without a single exception, clean, airy, and spacious, and enriched and ornamented with trees and shrubbery.*" p. 20. Again: "from the extensive and beautiful promenade of the Battery on the bay, at the termination of Broadway and Greenwich-streets, to Rector-street, which may be considered the northern boundary of the district we have been describing, *this whole section is in no part of it in the least degree cramped or confined.* Much the greatest portion of ground included within these limits is occupied by the streets which traverse it, to say nothing of the large open space comprised in the yards, particularly those in the rear of the houses in Broadway, on the side of Greenwich-street." p. 21.

Can language be stronger, or description more vivid, to prove the entire conviction of the writer, that this spot possessed in the highest perfection every advantage which could be conferred upon it by situation, cleanliness, and unceasing ventilation from cool, pure, and refreshing winds? And yet notwithstanding all this, this is the very spot upon which Dr. Townsend locates his contagion, and where it displayed, according to him, its most terrific powers; and not merely so, but he urges these very local advantages, as a proof of the

disease being contagious, inasmuch as there existed no local causes to which it could be attributed. It comes therefore with rather an ill grace from him, to contend that there was too much pure air and ventilation, forsooth, at the Quarantine Hospital for contagion to exist, when he urges these very circumstances as a proof of the introduction and subsequent propagation of the disease being the result of contagion alone.

The want of subjects upon which the contagion might operate, is another reason, according to Dr. Townsend, why it did not exhibit itself at Quarantine. It is impossible to say precisely how many persons had communication with the hospital. Dr. Townsend asserts that there were none except the two physicians and three or four nurses belonging to the establishment. This must however be incorrect. Besides the persons employed in conveying the sick from the city, there must have been others engaged to assist in carrying them from the wharf to the hospital. Dr. Bayley, in one of his letters to the Mayor, also speaks of a steward and an orderly man as being attached to the hospital, and generally assisting in this business.* Besides, deaths were continually occurring, and an additional number of persons must necessarily have been employed for burying the dead bodies. In addition to all this, there were several patients sick of other diseases in the hospital during the epidemic; so that there must have been, from the very nature of the case, a considerable number of persons who had communication with the sick—a number at all events large enough abundantly to test the principle of contagion.

We come now to the last reason assigned by Dr. T. why the yellow fever did not prove contagious at the Quarantine Hospital, and that is, that as the nurses and physicians "had long been habituated to the care of yellow fever patients, they were therefore less liable to take the disease." We fear Dr.

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* History of the Proceedings of the Board of Health, &c. p. 63.

Townsend will not be borne out in this statement by facts. What proof is there that the physicians and nurses were less susceptible of taking the disease than other persons? Is the simple fact of their exemption to be considered as a proof? Certainly not—because that takes for granted the very point in dispute, viz. that the disease is contagious. And yet, we suspect it would be very difficult to find any other proof of this assertion. But if the attendants upon the sick were unsusceptible of the disease, when and how did they become so? If they were so in reality, after having attended twenty, thirty, or forty patients, they certainly could not have been so when they commenced their attendance upon the *first* patient of which they took charge. *Then* at least they must have been as susceptible as all other persons, and yet even *then* we do not hear of their taking the disease. But let us look at the broad fact itself. Is it true that attendance upon persons sick of yellow fever, however long continued, will give the person an immunity from the disease, if exposed to the proper cause which produces it? We answer, no—and appeal in proof to notorious facts which have occurred in the history of the Quarantine establishment itself, where not less than five out of seven of the physicians appointed to that station have been seized with this disease, and four have actually fallen victims to it; and this too after a long seasoning, when, according to Dr. Townsend, they should have been for ever protected from its assaults.

II. We now proceed to state the second fact in proof of the non-contagious character of the yellow fever. At the distance of about three miles from the city, at Kip's Bay, a spacious two-story dwelling house was provided at the public expense, for the reception of such of the inhabitants from the infected district as were unable to provide a refuge for themselves. From the official account* given to the Board of Health by the attending physician, Dr. Drake, it appears that during

* History of the Proceedings of the Board of Health, &c. p. 130.

the season ten persons lay sick of yellow fever in this establishment, two of whom died. Of the physicians and nurses in attendance, not one contracted the disease. But to render the facts connected with this building still more conclusive, it is stated that "besides the above sick, the house was occupied, during the unhealthy season, by the family of Mrs. Roberts, consisting of four persons; the family of Mrs. Thompson, of eight persons, and three children of the Coit family: all of whom continued in good health, with the exception of two children of Mrs. Roberts, and two of the young Coits, who suffered from intermitting fever, which was doubtless to be attributed to the low wet grounds in the neighbourhood of the house."*

III. During the prevalence of the fever, six persons lay sick of it at Greenwich, a village about a mile from the city. All of these had contracted the disease in the infected district. Five of the six died. In no instance did they communicate the disease to physicians, nurses, attendants, or friends. To give additional weight to this fact, it should be recollected, that to this place had been transferred the seat of business—that in consequence of this, almost all the merchants of the city had retired to it, and that to accommodate them, hundreds of temporary buildings had been erected. From this influx of inhabitants, it may naturally be inferred that the village was crowded to excess; and from this circumstance, as well as the want of comfortable accommodations, every thing seemed favourable to the propagation of the disease. Still, although a number of very decided cases of the fever were carried to this place, lay sick, and died there, it was not, in a single instance, communicated. It only remains to add, that the body of one of the patients who died here, was dissected by two physicians, Drs. Donaldson and Torrey, neither of whom suffered from it the slightest indisposition.

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* History of the Proceedings of the Board of Health, &c. p. 132.

IV. In addition to the cases already recorded, there were a large number of persons, who, after having contracted the seeds of the disease in the city, had the disease developed in them after their removal into different and distant parts of the country. There occurred about thirty-six cases of this sort, and at the following places, viz. three at Newark, N. J.; one at Harlaem; three in the city of Jersey; one at Tappan, N. Y.; six at Bloomingdale; one at Albany; three at Middletown-Point, N. J.; four in different parts of New Jersey; one at Newtown, L. I.; one at New-Canaan, Con.; two at Amboy, N. J.; one at Hempstead, L. I.; one in Westchester; one at Bloomfield, N. J.; one at Woodbridge, N. J.; one at Saugatuck, Con.; two at Bushwick, L. I.; two at Elizabethtown, N. J.; and one at Boston. Of this number there were twenty-seven deaths. From the very extraordinary proportion of deaths among these cases, it is evident that they must have been very decided and malignant in their character, and yet in not a single instance was the disease communicated. In relation to the case at Boston, we have the recorded testimony of the editors of the New-England Journal of Medicine and Surgery, who state that the patient "lodged at one of the largest hotels in that place, filled at the time with persons from all parts of the country, and there sickened and died of the Yellow Fever;" and although "he was constantly watched and attended in a small and badly ventilated apartment, no one was in the slightest degree affected by his sickness."*

Let us now pause and reflect upon the amount of testimony already advanced. It appears then, from the foregoing facts and statements, that upwards of one hundred persons, sick of Yellow Fever, (about one fourth of all the cases,) lay in different parts of the country, without, in a single instance, communicating the disease. If it had been previously proposed to settle this question by actual experiments, we cannot conceive that any could have been suggested which would have been

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* New-England Journal of Med. and Surg. vol. xii. p. 384.

more satisfactory to all parties, than the very ones which actually transpired during the summer and autumn of 1822. That one hundred persons, sick of a disease highly malignant and contagious, located in different parts of the country, should not, even in a solitary instance, have communicated it to a second person, seems to us literally impossible; and we believe, that were it not for the influence of preconceived opinions, and long-cherished theories, facts of this sort would come home to the mind of every man with a force perfectly irresistible. Aware of these facts, the contagionists, so far from abandoning their favourite theory, have invented new schemes for upholding it. One of the most popular of these, at present, is this, that Yellow Fever, although it may not prove contagious in the pure air of the country, yet is eminently so in the impure atmosphere of cities, &c. Whether any countenance was given to this doctrine, by the facts which were developed during the Fever of 1822, we now propose to investigate.

We cannot, however, refrain from first making a few remarks upon the theory itself, which asserts that a disease may be contagious in one sort of air and not so in another. Notwithstanding this doctrine has received the sanction of some very distinguished names, we have never been able to convince ourselves that it is correct in fact, or philosophical in principle. That it is not correct in fact, so far as it relates to Yellow Fever, we shall show directly. The grounds upon which it is conceived to be unphilosophical are these.

If contagious effluvia emanate from the body of a person sick of a peculiar disease, they can be influenced by the surrounding air in only one of two ways. First, the surrounding air may serve simply as a medium of transmission. In this way the effluvia are diffused more widely than they would be in vacuo. It is evident, however, that here the contagion remains unchanged in its character, and produces its specific effects without any aid from the atmosphere, except that of enabling it to act at a greater distance from the sick body. Se-

cond, the contagious effluvia may enter into chemical combination with the surrounding atmosphere. An entirely new compound then is formed, the effects of which, upon the human system, must necessarily be different from those of the original contagion.

These are the only possible methods in which contagious effluvia can be influenced by the surrounding atmosphere. Now, if we apply these propositions, and push them to their conclusions, they will be found to destroy completely the theory of which we are speaking. If the contagious effluvia enter into chemical union with the air, and form a new poison, then the same specific disease cannot be re-produced; this supposition, therefore, is inadmissible. If, on the other hand, the air serves merely as a medium for transmitting the poison to a greater distance, then no reason can be assigned why, if you approach near enough to the sick body, contagion should not display itself in a pure as well as an impure atmosphere.

Let us take another view of the subject. If a disease be contagious in one kind of air, and not in another, then it must acquire its contagious character from some peculiarity in the air in which it is so. And if this be the case, then the principle of contagion must exist in the air, and no reason can be assigned why the air itself should not, under these circumstances, produce the disease, independently of all sick and diseased bodies. This seems to us to be an inevitable conclusion from the premises; and to our minds, it appears most satisfactorily to do away the necessity of resorting to contagion, to account for the origin and propagation of yellow fever. On these grounds we think the popular doctrine which supposes that this disease may be contagious in one species of atmosphere and not in another, is unphilosophical.

But we wish not to rest this subject on abstract reasoning alone. We shall again appeal to facts, to prove that in the impure atmosphere of our city the disease was as destitute of any contagious property as it was in the country. And for the purpose of covering the whole ground, we shall

first state those which establish this in those parts of the city which were considered as uninfected. It is difficult to ascertain precisely the number of persons that lay sick of the fever, beyond the limits of the two infected districts. Dr. Townsend estimates them at one hundred and four. Admitting this to have been the whole amount, although it probably was larger, we would ask, was a single one of these known to have communicated the disease to a second person? That there was not, is a fact so notorious, that even Dr. Townsend, with all his zeal for contagion, is forced to admit it. That there may be no evasion on this subject, we shall quote his own words: "Out of the one hundred and four persons," says he, "sick of yellow fever in the uninfected parts of the city. sixty-five out of this number did not reside in the infected district, but had been employed there as labourers, or merely passed through it. These, therefore, could have brought neither dirty clothing nor any other infected articles with them. Why these, however, and the remaining thirty-nine scattered over various parts of the city, supposing some of them to have brought their bedding or clothing with them, *did not communicate the disease to their physicians, nurses, or attendants, or to the inhabitants living in the neighbouring houses, it is perhaps impossible to say.* I will not deny, that *several* of these cases. from the *confined situation of the apartments in which they lay*, and the inattention of their nurses, *seemed to have been placed under circumstances particularly favourable to communicate the disease.* But it must be remembered," adds our author, "that all these were individual cases, and more or less insulated, not only by being placed in parts of the city remote from each other, but because they were in a great number of instances abandoned through fear by their relatives as well as friends, by all indeed but their physician, and some desperate fellow whom cupidity more than philanthropy tempted to do some few reluctant services to the forsaken sufferer."*

* Account of the Yellow Fever, &c. p. 65.

Let us now look for a moment at the concessions and admissions which are contained in the paragraph just quoted. In the first place, it is admitted, that one hundred and four persons sick of yellow fever, and lying in various parts of the city, *did not communicate the disease to their physicians, nurses or attendants, or to the inhabitants living in the neighbouring houses.* In the second place, it is admitted that *several of these cases were placed under circumstances peculiarly favourable to communicate the disease.* Is it possible for admissions to be more ample, and at the same time more fatal to the cause of contagion? As if conscious of this, Dr. T. immediately after attempts to explain them away, by asserting that the cases were individual ones, and remote from each other, and that they were in a great number of instances abandoned by their friends. With regard to the cases being individual ones, it is hardly worth notice after what has been stated in a previous part of this review. Almost every one of Dr. T.'s instances of contagion he attributes to communication with single individual cases. Upon his own ground, therefore, an individual case is quite abundant to propagate the disease. We cannot then permit him to contradict a principle in the present instance, which he has already assumed, and which forms the basis of a large portion of his reasoning. As to the abandonment of the patients by their friends, of which Dr. Townsend speaks, we can only say, that although we remained in the city during the whole of the prevalence of the fever, and were in the daily habit of visiting persons sick with the disease, we do not recollect to have met with a single case in which a patient was left in this state of helpless and hopeless abandonment. On the contrary, several instances fell under our immediate observation, in which the most honourable and disinterested devotion in administering to the wants and comforts of the sick was displayed even by persons not connected with them by the ties of blood or relationship. Besides, what shows conclusively that such abandonment of patients labouring under the fever, could not in the very nature of things have ex-

isted, is the notorious fact, that every patient who either through poverty or any other cause could not command the attentions necessary in his case, was provided for at the public expense; and it was only those patients whose friends were both able and willing to take care of them, who remained in the city.

The causes assigned therefore by Dr. Townsend for the absence of contagion in these cases are evidently insufficient.

We shall now proceed to show that in many of these cases, admitted by Dr. T. not to have proved contagious, there was every attending circumstance required by the contagionists themselves, to favour the development and operation of this supposed property of the disease; and in doing this, we shall not advance a single fact which we did not ourselves witness, or for which we have not the very best authority.

Joseph Dykeman, a coloured man, who had frequented the infected district, without, however, we believe, visiting a single person labouring under yellow fever, was seized with this disdisorder on the 23d of August. He lay sick in Walker-street, a few doors from Broadway, in a low, confined, and damp cellar, where it seemed almost impossible that the fresh air of heaven could ever find its way. On the 28th, in company with several other physicians, of whom Dr. Townsend himself was one, we visited this man, and found him in the agonies of death. The most aggravated symptoms characterized this case, and at this time his eyes were fixed—his pulse was gone—his extremities were cold—blood was oozing from his mouth, and on pressing the region of the stomach, he seemed convulsed with pain. Notwithstanding all this wreck of the physical powers, the mind still retained its supremacy, and on being requested, he put out a clean, and blood red tongue. In a few hours after this, he expired. Notwithstanding the malignity of this case—notwithstanding the patient lay in a close, ill-ventilated, and filthy cellar—notwithstanding he was regularly attended by two physicians, and occasionally visited by numbers of other physicians, as well as strangers—not-

withstanding his family remained with him, took care of him during his sickness, and continued to inhabit the same place after his death—notwithstanding one of the women had actually washed the clothes in which he died—notwithstanding all this—not a single person ever became indisposed from communication with him.

E. Jackson, who had been in the infected district, was taken sick on the 27th August, and lay in a small, confined room in Chamber-street. She died on the fourth day of her disease, with decided black vomit. This person, although constantly nursed by two or three women, and visited by numbers of physicians, did not communicate the disease to a single person. We attended this woman, and visited her three or four times a day, remaining sometimes half an hour at a time, without experiencing the least inconvenience.

Mary Ann Ragan, an interesting young girl, was reported sick of yellow fever on the 13th September. She had lived in the infected district, but had not been near any sick person. After sickening, she was removed to No. 2 James-slip, where she died with black vomit on the fifth day after her attack. Here this patient lay in one of the filthiest parts of the city—in the vicinity of a wharf—the very location considered by the contagionists as most propitious to the development of contagion—in an apartment extremely close and uncomfortable, and scarcely large enough to contain six persons—she was attended night and day by her mother—visited daily by physicians from the Dispensary, as well as by others, and yet no communication of the disease took place in a single instance.

Alexander Benthousen, contracted the fever on the 14th of September, in consequence of working in the infected district, without, however, having had communication with any sick person. He lived in Church-street, and lay sick there, in a low, small, and dark cellar. He was attended by his wife during the whole of his illness, and was regularly visited by several physicians, none of whom suffered the least inconvenience in consequence of it.

Mary Tirnan took the disease in the infected district, and was afterwards removed to No. 66 Cross-street, where she died. In the room adjoining to the one in which she lay sick and died, two families lived crowded together. After the death of the patient, none of them deserted the house; and on calling there several days afterwards, we learned that none of the clothes of the deceased had been destroyed, but, on the contrary, that one of the women had washed them with perfect impunity. Not a single inhabitant in this house nor any person who visited this patient took the disease.

James Kewin was reported sick of yellow fever, on the 8th September, and died on the 15th. He lived in the infected district, where he took the disease, and was afterwards removed to No. 8 Thomas-street. It was here that we saw him on the day on which he died. On entering the apartment, we found him with cold extremities, pulse scarcely perceptible, and lying in a state apparently comatose. On speaking to him, however, in a loud tone of voice, he raised himself up, glared his eyes around, and then fell back in his bed without uttering a single sound. About two hours after this he expired. The place in which this patient lay, was a small and confined room, in the rear of another building. He was attended by a couple of females, neither of whom took the disease, nor did any of the physicians who attended or visited him.

James Macginnis was reported sick of the fever, on the 24th of August, at 123 Greenwich-street, and died on the 25th. During the three first days of his illness, his brother slept in the same bed with him, and afterwards attended him faithfully until he died, without suffering any ill effects. A reverend clergyman, who saw Macginnis frequently in the course of his sickness, escaped the disease, as did also all the physicians in attendance.

Mary Morris, reported on the 8th of September, and died on the same day. She had been taken sick in the infected district, but had not been near any person labouring under the disease. She was removed to Desbrosses-street, and lay in a

small back apartment, where we visited her. She had a nurse who attended her constantly. Neither nurse, physician, or any other person contracted the disease from this case.

In addition to the foregoing, two persons sick with yellow fever were carried to the New-York Hospital, and died there, and yet neither nurses, physicians, nor any other person, took the disease, although the wards in which they lay were filled with other patients.

It would be perfectly easy for us to go on and extend this list of cases to an almost indefinite length; the materials for so doing we have in our possession, collected at the time with every regard to truth and impartiality. We believe it, however, to be unnecessary, and shall therefore merely state in general terms, that we do not know of a single instance in which individuals lying sick with the disease, in any part of the city, however filthy or uncomfortable, communicated the same to a second person; and we do most sincerely believe that no such case did occur.

We come now to the infected districts, and notwithstanding Dr. Townsend's attempt to show that the disease was equally contagious under all circumstances, it is here after all, that he makes his principal stand in defence of contagion. It is here in fact that all the contagionists are obliged to take refuge, or abandon their doctrine altogether. Let us see whether it can be defended with more success here, than in other places. For the purpose of simplifying the subject, we shall first state the question at issue. The contagionists assert, that after the first cases of the disease at Rector-street, every subsequent case was the result of some communication with those already sick; and that as cases multiplied, the air itself became so impregnated by the contagious exhalations, from sick bodies,* as of itself to produce the disease in those exposed to

* "It is the sick who infect the air, not the air that infects the sick." Townsend's Account, &c. p. 111.

"The air is in no other way infected than by the emanations from the sick." Ibid. p. 111.

it, without immediate or direct connexion with the sick. The non-contagionists, on the other hand, assert that the disease did not spread in consequence of any communication with the sick, and that the infection of the district was owing to other causes than exhalations from those sick of the fever.

From this statement it appears that both agree in one thing, viz. that the air in a certain portion of the city, called the "infected district," was actually impregnated with a certain poison capable of producing yellow fever, in those exposed to it, without their having any immediate communication with the sick. This being agreed upon, the only remaining question to be solved is this: was the poison, so impregnating the air, and producing such effects, an exhalation from the bodies of those who were sick with the fever, or was it not? If it was, then the contagious character of the disease is established. If it was not, then the disease cannot be considered as contagious.

Our reasons for believing that the contamination of the air was not owing to any exhalations from the sick, are the following:

1. It has already been shown, that not merely in the pure air of the country, but even in the most impure and unhealthy parts of our city, patients sick of the yellow fever, in 1822, were uniformly approached with perfect impunity. The *air*, therefore, in the infected district, must have been much more venomous than the contagious poison itself, coming off directly from diseased bodies. That is, the poison diluted in atmospheric air, must have been more powerful than the pure, unmixed poison itself. A proposition, absurd in itself, and contrary to all analogy. We infer, therefore, that as the *air* of the infected district was more deleterious than actual contact with the sick, the poison existing in the air must have been some other than effluvia from the bodies of the sick.

2. If the infection of the air depended upon emanations from the sick, then it should have extended *pari passu* with the sick and the dead. That this was not the case is notorious. That

it was not so out of the infected district, is proved by the fact, already established, that no case of communication was known; and that it was not so in the infected district, is equally evident from the circumstance, that the limits of the district were only known and defined from persons being taken unexpectedly sick, without, in many instances, any sort of intercourse with those already affected.

3. The gradual and measured extension of the limits of infection, proves conclusively that it must have originated from some other cause than contagion. So regular was this extension, that attempts were made, and with apparent success, to calculate its daily progress. From the point at which it first commenced, it extended very nearly to equal distances in all directions. Can any man, of common reflection, contend that such an effect could follow from patients scattered in different directions?*

4. But what settles this beyond peradventure, is the fact, that by far the largest number of the sick did not lie in the infected district at all. From the official list published by the Board of Health, it appears that in all, not more than about one hundred and thirty lay sick in both infected districts during the whole of the prevalence of the fever, while about one hundred and seventy-two lay sick in different parts of the rest of the city. As therefore one hundred and seventy-two patients did not infect the air in which they lay sick, it is reasonable to conclude, that a *less* number would not produce such an effect, and therefore that the infection of the district was not owing to the sick.

From all these reasons, we conclude, that the infection of the air was not owing to contagious exhalations from the sick, but to some other cause. What this cause was, it is not our business at present to inquire. That it was a gaseous poison, is evident—that it was permanent in its action is also clear

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* Strange as it may appear, this very fact has been adduced by Dr. Townsend, as one of the proofs of the contagious character of the disease.

from its gradual extension until the appearance of frost. Whence or how it originated, is a question very far from being settled, the investigation of which we may perhaps take up at some future period.

After the general facts and arguments which have been advanced in support of the non-contagiousness of yellow fever, it might be deemed almost unnecessary to urge any thing further on the subject, were it not to notice one or two arguments that have been very largely insisted upon by Dr. Townsend in defence of his favourite theory. As far as we are capable of analyzing this writer's diffuse method of reasoning, he appears to rest principally upon the following: First, the fact (as he asserts it to be) of a *number* of cases occurring in individual houses; and second, that these cases did not occur simultaneously, but in succession and at determinate intervals.

In support of the first of these arguments, he gives us the following statement:—"From whence it appears, that out of about four hundred and twenty-two cases, the total number this season, two hundred and ninety-five, or very nearly *two-thirds*, occurred in *eighty-six houses*, all of which were either opposite to or adjoining each other, or contained each from two to eight cases. What is still more worthy of remark, *two hundred and seventy-six* of the whole number of cases occurred in *sixty-seven* houses, and each one of these sixty-seven houses furnished from two to eight cases, and out of these same two hundred and seventy-six cases one hundred and four died; that is nearly *one half* of the whole number of deaths of yellow fever on the records of the Board of Health! This accumulation of cases in particular houses appears in a still more striking light when we call to mind that out of the remaining one hundred and forty-six cases, which did not occur together in the same houses, sixty-five were persons who resided in uninfected parts of the city or in the country, and caught the disease by exposing themselves to those places in the lower part of the city where many persons had sickened. Thus, out of four hundred and twenty-two, the whole number

this season, there remain but eighty-one cases which did not occur in the number of more than one or as many as eight in the same house; or, in other words, there were but eighty-one cases which occurred singly in different houses." p. 115.

Without calling in question the accuracy of this statement, we assert that it by no means proves the existence of contagion.

1. Because all the cases alluded to occurred in the infected district, where every person was exposed to the same *common cause* which produced it in the first patient. Under such circumstances, the fact of half a dozen persons sickening in one house does not prove contagion any more than it does their exposure to the same general cause, producing the same effects upon each. When, however, it is recollected that in houses where the sick lay in the city *beyond* the infected district, no such fact was known to occur, the conclusion is not only legitimate but inevitable, that when it did occur in the infected district, it was *not* owing to contagion.

2. Another very satisfactory reason why so large a number of cases occurred in a comparatively small number of houses is, that almost all the houses of the district were deserted by their former inhabitants. In some streets not a single one remained inhabited—in others, only one or two. It is evident, then, that if any cases occurred at all, they must have taken place in those solitary buildings which were occupied. If this general and almost total desertion of the district had not taken place, victims to the disease would have been found without difficulty in almost every other house.

3. Because persons inhabiting the same house, from equal predisposition—equal exposure—and similar modes of living, were most likely to be similarly affected by the common poison pervading the atmosphere; hence it was to have been expected, if one was seized with the disease, others in the same house would also be liable to it.

As to the *second* argument of Dr. T. viz. that numbers of

cases occurred *in succession*, we answer, that it does not prove contagion:

1. Because, even admitting it to the fullest extent contended for, the simple fact of succession is no test of a disease being contagious. This we think may be proved satisfactorily by a very simple and obvious illustration frequently occurring. Suppose a person living in the neighbourhood of a marsh, is seized with bilious remittent, a disease universally admitted not to be contagious: he is visited by a friend, who continues with him, and attends upon him during his sickness. In a few days, this friend finds himself beginning to sicken, and is also taken with bilious remittent fever. Now, here we have actual communication with the sick—precisely the same disease reproduced—and the one taken *in succession* to the other. What more can be wanting to make out a case of contagion? And yet all this apparent proof, conclusive as it appears, amounts to nothing. It merely proves, that *both* patients were exposed to the influence of the miasms from the marsh, *the common cause* producing precisely similar effects in all who are so exposed.

2. Because the fact of persons taking sick in succession may be explained satisfactorily without resorting to contagion. It is admitted on all hands, that certain states of the system predispose persons to be acted upon by the poison of yellow fever. The depressing passions have uniformly been considered as producing this effect. Hence cautions on this subject are laid down by almost every practical writer. Now, we cannot imagine any situation more truly depressing, or one more calculated to excite fear and anxiety than that of a family remaining in a pestilential district, and accordingly none more likely to prepare the system for being assailed by the disease. More especially would all this be the case, if one of the members of a family thus situated were taken sick, and it would rather be a matter of surprise than otherwise, if with all these predisposing and exciting causes operating upon them, persons did not take the disease.

On these accounts, we think that the fact of persons taking the yellow fever in succession, even admitting it to the fullest extent contended for by Dr. Townsend, does not prove any thing in favour of contagion.

We have now finished what we proposed doing in the commencement of this article, which was to present a summary of the facts and arguments which have induced us to believe that contagion had nothing to do in the propagation of the yellow fever as it appeared in this city in the summer and autumn of 1822. As our object has been a specific one, we have only noticed such parts of Dr. Townsend's work as had an immediate reference to the subject under discussion. Before we close, however, it may be expected that we should express some opinion concerning the general merits of this performance. And this we shall now do with all possible brevity, having already far exceeded our intended limits.

Chap. I.—*Origin, progress, and propagation of the disease.* This chapter occupies no less than one hundred and twenty-six pages! and is devoted entirely to a defence of the foreign origin and contagious character of the disease. Independently of the doctrinal errors which it contains, this chapter is in every respect the least creditable part of the whole book. Besides its great length, (which is a very serious objection to it) it is altogether deficient in systematic arrangement, and exhibits its author rather in the light of an angry polemic, determined at all hazards to defend a favourite theory, than as a calm and philosophical inquirer after truth.

Chap. II.—*Analysis of symptoms.* This is by far the best part of Dr. Townsend's work. The symptoms of the disease are drawn with much felicity, and what enhances the value of it is that it may be depended upon as strictly correct. From our own knowledge, we are prepared to bear testimony to the indefatigable zeal, patience, and industry which Dr. T. displayed in making himself practically acquainted with the disease; and in his description we recognise the genuine

features of it, as we witnessed them in numbers of cases at the time.

Chap. VII.—*Treatment.* Venesection, Dr. Townsend tells us, was seldom had recourse to. The remedies most depended upon " were active doses of calomel in the beginning, followed by saline, alkaline, and emollient cathartics, frequently repeated in the course of the disease, together with strict attention to the skin, by frictions, stimulating embrocations, warm ablutions, and mild tepid drinks, so as to withdraw the excitement and fluids to the surface and to the bowels; and by keeping these important passages of the system open, give every opportunity for the disease to escape." p. 209. Blisters to the epigastrium, chest, back of the neck, and extremities, were supposed to be highly advantageous in checking the gastric irritation and vomiting, so characteristic of this disease. On the use of emetics, Dr. Townsend thus expresses himself: " The pernicious effects of tartar emetic, in every stage of the complaint, has, we are bold to say, been fairly tested and established. It had already been condemned by the almost unanimous sentiment of the profession, which did not, however, deter a number of physicians, some of whom were, perhaps, governed also by an erroneous pathology of the disease, from practically determining its properties under their own immediate observation. It has in almost every instance of which we have heard of its employment, been attended with disastrous consequences." p. 213.

Chap. IX.—*Immunity and predisposition.* Dr. Townsend has adopted the opinion that the yellow fever cannot be taken more than once by the same individual. This was to have been expected as it goes directly to the support of his favourite notions with regard to the contagious character of the disease. For ourselves, we confess that we are not satisfied on this head. It is true, that the volume of Dr. Pym contains a body of highly interesting facts in favour of this opinion, at the same time that it is opposed by much positive testimony, prov-

ing that the disease may and does assail the human system more than once.

Appendix, No. X.—State of the weather for thirty-four years during summer and autumn, from the year 1789 inclusive, to August, 1822. This portion of the Appendix contains a valuable summary of facts concerning the state of the weather in this city for a long series of years, and we think Dr. Townsend is entitled to much credit for the labour which it must have cost him in compiling it.

To conclude: the work of Dr. Townsend is altogether too long for the subject of which he treats; is needlessly lumbered with irrelevant matter; and contains much, both as it regards fact and argument, of which we do not approve. Notwithstanding all this, we are of opinion that it embraces a large body of valuable and interesting materials concerning the yellow fever, as it prevailed in this city in 1822; at the same time that it exhibits the evidences of an industry and research highly honourable to so young an author; and of powers, which, under proper culture and discipline, promise to conduct him to no mean distinction in his profession.

J. B. B.

Art. II.—Pharmacologia; *comprehending the art of prescribing upon fixed and scientific principles; together with the history of Medicinal Substances.* By J. A. Paris, M. D. &c. Second American, from the fifth (enlarged) London edition. With additions and illustrations of the Materia Medica of the United States. By Ansel W. Ives, M. D. 2 vols. 8vo. pp. 699. New-York, 1823.

We have before expressed it to be our fixed intention not to review any books, excepting those which are the indigenous production of our own country. and we repeat it at this time, to exculpate ourselves from the indiscriminate

charge preferred by Dr. Ives against American journals, for not having noticed the Pharmacologia of Dr. Paris, on its first appearance amongst us. When we determined on confining ourselves to American productions, we were aware that we had undertaken a novel experiment. The difficulties which we had to encounter, were neither slight nor few in number. In the very infancy of her efforts, our native medical literature, it was to be feared, would offer a very limited field for the fulfilment of our task, and furnish scanty materials with which to make our review department either ample or instructive. The success which has hitherto attended us in this respect has dispelled every fear on this subject, and has in fact borne the most decided testimony, no less to the fertility of our soil, than to the excellent quality of its growth. But a greater difficulty was likely to present itself in the boldness with which we were necessarily called upon to advance our opinions on works which had not yet passed through the ordeal of criticism, and in the risk we would thereby incur of being reproached with entertaining, on the one hand, overweening partialities, and on the other unjustifiable and ungenerous prejudices. In this respect too, the indulgence of our friends inclines us to the belief, that we have not altogether been unsuccessful; the only merit we claim, being that of impartiality, and a desire of rendering our pages useful to our readers. We will briefly state other reasons for confining our attention to American books.

First, we have long been of opinion that reviews of foreign books, on this side of the Atlantic, must in general be a work of mere supererogation. Before these books come over to us, they have been, in the majority of instances, preceded by reviews of them written at home; and those by critics neither few in number, nor contemptible in point of talent. What is there left then, for the American critic, excepting in very particular cases, but to re-echo back the sentiments of those who have gone before him, or perhaps to dwell, for the mere sake of difference, on minor points, which may have been overlooked,

or thought unworthy of notice. This task, in our opinions a very humble one, is only next in degree to that of learned reviews of books supposed to be in every scholar's hands for centuries back. There may, undoubtedly, be a great deal of learning affected on these occasions, but we fear with little benefit to either writer or reader.

Secondly, we have always thought it due to the interests of our professional brethren at home, to pay attention to their productions in preference to those of foreigners. We have feared that mere assertions on our part, of what American physicians and surgeons *have* done, would tend little to impress the world with a sense of the importance or magnitude of their labours, unless we accompanied the assertion with some actual proofs; and in the absence of these in respectable American journals, we have therefore seen, with little or no surprise, unfavourable opinions expressed in late English publications, in relation to this subject. If we do not think the works of our own countrymen worthy of notice, what right have we to expect that foreigners, less partial, should differ from us in our own favour? If books of merit are not recommended to public attention by a favourable introduction at home, what other fate can befall them than to be laid up on the shelves? Yet have we seen, and not without experiencing the keenest regret, the most respectable productions passed over in silence by our own critics, and as if with superlative contempt. This conduct we have always deemed unjust, and shall on all proper occasions continue to deprecate. We confide in the talent and usefulness of our own writers, to bear us out in the course we have adopted, and to supply us with abundant materials for this department of our work.

After this exposition of our views, we shall not be expected to enter upon any examination of the work of Dr. Paris. We shall confine ourselves to a brief notice of the additions to it by the American editor.

The article on the Humulus Lupulus, is the most important of these additions Dr. Ives deserves the credit of having first

shown, that the characteristic properties of the hop, reside exclusively in a peculiar substance, not more than a sixth part of its weight, and separable from it by sifting and threshing. He gave the name of *Lupulin* to this substance, and found that it contained an *aroma*, which it yields to water and alcohol, and which is rapidly dissipated at a high temperature. He likewise believed at first that no essential oil could be detected by distillation in any part of the hop; but subsequent experiments made by others and repeated by himself, have since undeceived him, and plainly discovered the existence of an essential oil in the Lupulin. Dr. Ives now states that the Lupulin may be preserved in bottles for three years, and that the experiments of a brewer in this city have demonstrated, that in the Lupulin reside all the virtues of the hop essential to the good quality and the preservation of beer. This brewer obtained by the mechanical operations before mentioned, twenty-one pounds of Lupulin from one hundred and fifty pounds of hops. Of this and the other usual ingredients forty barrels of beer were made. Four or five months after it was made, this beer was found to be less bitter, but in nowise inferior to beer made in the ordinary manner.

"There can therefore be no doubt," says Dr. Ives, "of the correctness of my former opinion, that if any mechanical means can be devised by which the *Lupulin* may be easily and readily saparated from the strobiles, it will consummate an improvement of incalculable value in the preservation of hops, and in the art of brewing." Vol. ii. p. 179.

The medicinal efficacy of this article is still questionable. Dr. I. is of opinion, that the method of preparing and administering it is essential to its success. The preparation he recommends is the tincture prepared by digesting ʒij of Lupulin in oj of alcohol; dose from one to two drachms. In this manner prescribed, it is useful, according to our author, in diseases produced by exhausted excitability, or by a deranged state of the digestive organs. The advantage of the Lupulin is that of producing frequently the anodyne effects of opium, without

impairing the tone of the stomach or the alimentary canal, as evinced by costiveness, &c.

The additions which Dr. Ives has made are numerous, and not a few of the substances which he has introduced are dwelt upon to a considerable extent. If Dr. Ives has committed any particular error we think it to be the enlarging too much the catalogue of remedies. It has been, and justly is the boast of the present age, to have purified the materia medica of much dross, and to have rendered the whole efficient to a degree unknown to our predecessors; and we cannot but view with caution every new substance that serves to augment the list of remedial agents.

It deserves to be stated that the present reprint is from the last edition, much improved, published by the author. This circumstance, and the additions by Dr. Ives, cannot fail to secure to the work an extensive circulation.

ART. III.—ANNALS *of the Lyceum of Natural History of New-York.* New-York: Bliss & White. 1823. Nos. I. and II. pp. 64. 8vo.

IT is but a few years since we were entirely dependent upon foreigners for all our information concerning the Natural History of our country. The works which they published were generally the results of rapid tours, or at most, of short residences, and of consequence very lame and imperfect. These works, moreover, appeared in foreign countries, and were, for various reasons, difficult to be procured; and if they ever chanced to reach us, were confined to the libraries of a few wealthy individuals. We were likewise entirely destitute of books upon the Natural History of other countries, without which, it was impossible for us to distinguish things known and described, from those which were new.

Other causes may also be assigned why Natural History, in common with the other sciences, was for a long time neglected by our citizens. After the sanguinary contest which terminated in the establishment of our independence, our country was reduced to the extreme of poverty and distress. It was therefore scarcely to be expected that science and letters, which depend in so eminent a degree upon wealth and prosperity, should flourish. And as our citizens thought themselves more profitably engaged in rebuilding the fortunes they had lost, they considered it their interest to import these articles from foreign countries. It was indeed an error of no common magnitude; for it has been the means of creating a sort of prejudice against the literary as well as scientific productions of our countrymen. It is "passing strange," that men who pride themselves upon their independence, and who boast upon all occasions of the freedom of their institutions, should yet act in many instances as if they were suffering under the most servile and cruel thraldom.

In making these remarks we disclaim any other motive than a sense of duty as Americans—fondly attached to the land of our birth—to the country which has educated us—and which supports and protects us,—we are unwilling that this preference for foreign productions, merely because they are so, and without the least regard to their merits, should be entailed upon us;—for it not only subjects us to deserved ridicule, but has the effect of keeping for ever in the shade the scientific men of our country—men who for want of sufficient encouragement, are either obliged to abandon the pursuits for which they were intended by nature, or to suffer throughout their whole lives the heaviest pressure of penury and want.

We hail with pleasure any addition to the stock of our information upon the Natural History of our country, and particularly when it comes from our own citizens. It is an evidence not only of an increasing conviction of its importance,

but also that the list of our naturalists is becoming more and more extensive. It is for these reasons that we are peculiarly gratified with the appearance of the work whose title is prefixed to this article—a work, which if its succeeding numbers sustain the character of those already published, will not only be read with deep interest by the lovers of science, but will reflect the highest honour upon the institution under whose direction it is conducted. Its plan is similar to that of the Journal of the Academy of Natural Science, whose reputation has been so fully established, both at home and abroad.

The views of the New-York Lyceum in the publication of this work, are thus briefly stated in an advertisement prefixed to the first number.

"The object of the Lyceum, in publishing its annals, is to record new and valuable facts in Natural History; and to advance the public good by the diffusion of useful knowledge. The importance of the science, is, at present, every where acknowledged; and the attention bestowed on it, in our own country, has been amply repaid. A great variety of new, useful, and elegant productions have been discovered; and important facts, connected with the agricultural, commercial, and manufacturing interests, have been elucidated. In our attempts to bring to light the hidden riches of our country, we solicit the assistance of the public. We ask no emolument, we expect no gain. We cherish the hope that our exertions will be encouraged; that we shall be enabled to proceed in the course which we have commenced."

The first number of the "Annals," opens with "A synoptical view of the Lichens growing in the vicinity of New-York. By Abraham Halsey."

We were peculiarly pleased with this paper, because, as its author observes, "notwithstanding the great progress which botany has made in this country, the cryptogamic branch of it still suffers under the most unmerited neglect." The Ferns, Fungi, and Mosses, have indeed received some share of attention, but the Algæ and Lichens appear to have been but little

regarded. The scarcity of books with enlarged descriptions and figures, and the rarity of well authenticated specimens are referred to by Mr. Halsey, as the reasons why this branch of botany has been but little attended to.

The author, after a few introductory remarks, proceeds to give a catalogue of the Lichens which he has collected in the vicinity of New-York, and within a circuit of fifty miles; to which he has added a few, of which specimens were received by him from the northern part of this state, and from Massachusetts. He has also accompanied the different species with a notice of their leading characteristics; by which means he has supplied in a great measure the barrenness of a mere enumeration, and has materially increased the value and utility of the article.

In this arrangement our author follows that adopted by Professor Acharius, in his "Synopsis Methodica Lichenum," a work to which constant reference is made. Several species are enumerated in this catalogue which do not appear to have been hitherto described.

The next article in this number of the "Annals" is—"On the identity of the supposed Pumice of the Missouri, and a variety of Amygdaloid found near the Rocky Mountains. By Edwin James, M. D. Surgeon U. S. Army."

In this paper, the author asserts, that "the light and porous stones, brought down the Missouri by the annual floods, and which have been spoken of as pumice by Bradbury and others, differ from the ordinary varieties of pumice, in being less easily if at all fusible by the blow-pipe; in the absence of the fibrous structure; and in many instances of the semi-vitrified aspect of that mineral; that the pumice of the Missouri is, in all respects, similar to a substance collected about the beds of amygdaloid in the trap formation, near the sources of the Canadian river of the Arkansas. It occurs there in detached masses, of various dimensions, from which it would be easy to select specimens, exhibiting every intermediate stage of gradation in specific gravity and colour, from the light red and porous masses, like those floating on the Missouri, to the com-

pact and dark-coloured greenstone, which is the prevailing rock in that formation."

Dr. James also combats the suggestion of Mr. Bradbury and others, "that the origin of the supposed pumice of the Missouri is to be ascribed to the agency of subterranean fires, believed to exist in the coal beds about the upper branches of that river." The fact that this substance has not been found in coal mines which have continued burning for a length of time, in places open to frequent examination; and the obstinacy with which, in its present form, it withstands the operation of heat, are adduced as arguments unfavourable to this opinion.

"Reports are frequent among hunters and travellers, who have visited the country about the Falls of the Missouri, the Yellow Stone, and the eastern ranges of the Rocky Mountains, north of the Platte, which have been thought to justify the opinion that subterranean fires are now in existence in that quarter. We are told of natural chimneys, lined with soot, and which are sometimes seen to smoke, rising out of the summit of hills, about which are found large quantities of slag and cinder, like those of a blacksmith's furnace; and of other appearances confidently supposed to indicate the existence and the present activity of volcanic or pseudo-volcanic fires. Some have gone so far as to give a circumstantial description of a deep and wide chasm in the side of a mountain, called Coulter's Hill, out of which flames and smoke have often been seen to issue.

"Those who have had frequent occasion to trace to their origin, popular traditions, and highly fanciful hypotheses of men little accustomed to the attentive examination of ordinary phenomena, will readily believe that the account above-mentioned may have had no other foundation than the occasional discovery about the upper branches of the Missouri, of some varieties of amygdaloid, or some other black and porous rock. It has been ascertained, that the country along the base of the Rocky Mountains, a few degrees to the southward of the Missouri, contains extensive beds of amygdaloid, in connexion with which is found a substance similar in aspect and character to the mineral under consideration, and

light enough to float on water, it will not perhaps be thought an extravagant conjecture to suppose, that the reputed pumice stone of the Missouri is not a product of volcanic or pseudo-volcanic fires at present in a state of activity; but a variety of amygdaloid brought down by the rains and the currents of water, from an extensive formation of trap rocks in that quarter."

We have made these ample extracts for the purpose of presenting, in full, the ground of Dr. James's opinion with regard to the "supposed pumice of the Missouri." Notwithstanding all that has been said, however, much doubt and uncertainty still remains as to the true nature of this mineral; for although it differs from pumice, in its being difficult of fusion, the other characters here stated are not sufficiently distinctive. We regret exceedingly that Dr. James has not furnished us with an analysis of this interesting substance, as, without it, we are unable to judge correctly between him and the authors whose opinions he endeavours to subvert.

Dr. James's paper is succeeded by a "Description of a new and gigantic species of the genus Cephalopterus, of Dumeril. By S. L. Mitchill, M. D."

Whenever we open a production of this veteran in the cause of science, we expect to find something worthy of its author—something which will add new lustre to the reputation which he has already established. It affords us peculiar pleasure, that notwithstanding the pressure of his other avocations, the learned author has once rode, like Arion, upon the back of a dolphin, and like him has been landed safe at Tænarus.

The fish which is the subject of this article, is referred by Dr. Mitchill to the genus Cephalopterus, and is named by him *C. Vampyrus*, Oceanic Vampire. Its specific description is thus given:

"Breadth of the body exceeding its length; mouth nearly terminal, without teeth; a vertical fin on each side of the mouth, projecting forwards; tail unarmed."

This animal was taken in the Atlantic Ocean, near the entrance of the Delaware bay, by the crew of a smack, and was

killed by them after a long and hazardous encounter. The conduct of this crew is deserving of notice, as it is to their enterprise and perseverance that we are indebted for an acquaintance with this extraordinary inhabitant of the deep.

The weight and dimensions of the oceanic vampire are stated as follows:

"The weight was so considerable, after it had been towed to the shore, that three pair of oxen aided by a horse and twenty-two men, could not drag it, by their united strength, to the dry land. By estimation, it was supposed to be somewhere between four and five tons.

	Feet.	Inches.
"The length, from the fore margin of the head to the root of the tail	10	9
Length of the tail	4	0
Length of the fins projecting forward from the corners of the mouth	2	6
	17	3

Making the whole length, from the tip of the head fins to the tip of the tail, seventeen feet and three inches.

The breadth, from the extremity of one pectoral fin or wing to the other, measuring along the line of the belly	16	0
When measured over the convexity of the back	18	0

Of the minute description of this singular animal which succeeds, the most interesting part is that which relates to the wings or flaps.

"The wings, flaps, or pectoral fins, were of a very curious organization. There was a scapula, humerus, ulna, carpus, and an uncommon number of phalanges, of the before-mentioned cartilaginous structure. All these limbs, or joints, were articulated with each other; but the articulations, like those of the human sternum, had very little motion. This series of stiff joints was fixed in the flesh, and proceeded somewhat obliquely backward. Instead of moving like the leg of a beast, the arm of a man, the fin of a fish,

or the wing of a bird, it seemed to serve the purpose of a basis for other organs of motion; at least as far as the scapula, humerus, and ulna were concerned. It had more analogy to the wing of a bird than to any thing else; and yet so different from it, as to manifest a remarkable variety of mechanism in organs intended substantially for the same use.

"Fish of the kind now under consideration, may be aptly denominated *submarine birds;* for they really fly through the water as birds fly through the air. I have seen fishes of this organization perform their flights by flapping their wings after the manner of crows, hawks, and eagles, in their progress."

Dr. Mitchill exhibits the contrast between the wing of a bird and of such a fish, which is exceedingly curious; but for this we must refer the reader to the original.

The concluding paper in this number, and which is continued in the second, is entitled "Descriptions of some new or rare Plants from the Rocky Mountains, collected in July, 1820, by Dr. Edwin James. By JOHN TORREY, M. D."

We are highly gratified to find that even so small a portion of the botanical discoveries which have been made in the western parts of our continent, have been published. We fondly cherish the hope, that either Dr. Torrey, or some other individual equally competent to the undertaking, will soon favour us with descriptions of all the new or rare plants collected during the late expedition to the Rocky Mountains. These we have for some time expected from the gentleman who was attached to it as botanist; but it appears from the information given us by Dr. Torrey, that our expectations will not soon be realized. We trust, however, that some arrangement will ere long be made by our government, in order that these, as well as the discoveries in the other departments of natural history, may be laid in a proper manner before the public. The honour of our country is concerned in their publication; a liberal appropriation should be made from the national funds, and each member of the expedition should be amply remunerated for the time and labour necessary to effect this object. Our

government would then avoid the disgrace of having these important discoveries only published in the transactions of societies, where detached portions are occasionally meted out to us, in the form of memoirs, pentades, or decades; and that too at the expense of individuals, who may be distinguished for their public spirit or love of science.

Dr. Torrey's paper is of such a nature that we should detract much from its merit, were we to attempt an analysis. The high reputation of the author will no doubt ensure it an attentive perusal from those who are engaged in botanical pursuits. It must suffice us, to present merely a list of the plants described:

1. *Androsace carinata.** 2. *Oxyria reniformis. R. Brown.* 3. *Adoxa Moschatellina. L.* 4. *Potentilla nivalis.** 5. *Myosotis mana. Villars?* 6. *Primula angustifolia.** 7. *Polygonum viviparum. β. capitatum.** 8. *Trifolium nanum.** 9. *Pentstemon alpina.** 10. *Capraria pusilla.**

Six of the plants here enumerated have not been previously described. Of the *second*, the only locality in North America hitherto recorded is Labrador, where it was found by Colmaster. The *third*, according to Dr. Torrey, is now for the first time introduced as a native of our continent; the *fifth* has also been found on some of the high mountains of Europe; and the *seventh* has hitherto been observed in North America only in the localities mentioned by *Pursh*, and on the White Hills of New Hampshire.

The learned paper of Dr. Torrey is succeeded by "An examination of a mineral from Andover Furnace, Sussex County, New-Jersey. By James Renwick, Professor of Natural and Experimental Philosophy and Chemistry in Columbia College."

This mineral was found by Charles Kinsey, Esq. adjacent to the route of the Morris Canal, but was brought from the same place several years since by Col. Gibbs. "It exists intimately connected with, and disseminated through the ore of the Andover mine."

The author gives a minute description of its external characters, and also details several experiments made with a view to ascertain its constitution. From these it appears that this mineral has, in 50 grains :

Silex	16.30 grains.
Protoxide of Cerium	6.16
Protoxide of Iron	10.50
Alumine	1.84
Lime	12.04
Water	1.75
Loss	1.41
	50.00 grains.

As this mineral does not agree with any of the compounds of Cerium that have been hitherto described, the author announces it as a new ore of that metal; and proposes to name it the *Torrelite*, in honour of Dr. John Torrey of New-York.

" Examination of the acid of the Rhus Glabrum, with observations on the juice of the Sambucus Canadensis, as a delicate test. By Issachar Cozzens, Manufacturing Chemist."

" The berries of the sumach (*Rhus Glabrum*) ripen in the month of November, forming large clusters of a bright red colour. These have been long known to yield a powerful acid, which is sometimes used by the country people for medicinal purposes, or as a substitute for lemons, to make a pleasant beverage. It is also extensively used to convert cider into vinegar." From the experiments made to determine the nature of this acid, the author concludes that it is the *Malic*, and " that it is nearly pure, being only contaminated with a small portion of gallic acid, which probably proceeds from the pulp of the berries.

" On carefully inspecting the sumach berries, they are seen to be clothed with a down, or pubescence, and the acid principally resides in this substance; for after it is washed off by warm water, the berries are entirely free from any acid taste."

Mr. Cozzens has also made several experiments upon the juice of the elder-berries; and from the results of these it seems to possess important properties as a delicate re-agent.

We cannot leave our author without expressing our gratification, that he is devoting a portion of his attention to this interesting branch of chemistry. We trust he will continue his researches, for we have already an earnest that they will not only be highly creditable to himself, but of great benefit to the community.

The next paper is from Dr. DEKAY, and contains a notice of some curious organic remains from the Catskill mountains, in the State of New-York. We are extremely gratified in finding an increasing attention to this interesting but neglected department of natural knowledge. In this country more especially, it presents a wide and unexplored field for the enterprise and industry of our naturalists. Science demands frequent and ample contributions from Dr. D. who is so well qualified to make them.

The next paper is from the pen of the Hon. DE WITT CLINTON; it is concise, and treats of a new species of fish from the Hudson River. This is not the first contribution made to the natural science of our country by this distinguished gentleman. The pages of this Journal can bear testimony to the zeal and ability he has displayed in his favourite pursuit. We consider it highly honourable to him, that amidst the political contentions in which he has been so long engaged, he has not found either taste or time wanting to devote to the cause of letters, and the pursuits of philosophy.

The succeeding paper is by Dr. TORREY, and relates to the discovery of a rare mineral, the Yenite. This, until of late years, was only found in one spot, the island of Elba. M. de Lievre, the first discoverer, in a fit of patriotism, or of adulation, named it Yenite, in honour of the battle of Jena. This was not relished by the mineralogists of other countries, of course, and it stands in Jameson's Mineralogy under the graceful and euphonous name of Le Lievrite! Several years after, when Napoleon was exiled to Elba, his enemies affected to consider this coincidence as a sort of retributive justice. The mineral is, however, still rare; and we congratulate Dr.

Torrey as the first discoverer of the Yenite in the United States. From the zeal with which mineralogy is pursued with us, there can be no doubt that many other localities will soon be discovered.

Captain Le Conte is the author of the next paper, on a new species of *Siren*. This is well known to our readers as an animal which has given rise to much dissention among anatomists and physiologists. It is questioned whether it be a larva or a perfect animal, and it has even been asserted, that it has both gills and lungs for the purposes of respiration. Capt. Le Conte maintains, that both the S. *lacertina* and his new species, the S. *striata* are perfect animals, and his reasonings and proofs are to us quite satisfactory.

We were pleased to observe that Dr. Mitchill has been so successful in his zoological researches as to discover the Megatherium within the limits of the United States.

The second number concludes with part of a Table, by the celebrated cryptogamist De Schweinitz, to facilitate the study of the American Carices. The Table is incomplete; but as far as we are able to judge from what is already published, it appears admirably adapted to this purpose.

In concluding this article, we would observe, that if this work continues as it has commenced, it will greatly assist the cause of science at home, and add much to our reputation abroad. To ensure its success, however, nothing is more important than that the greatest caution should be exercised on the part of the committee of publication. They should be discreet, impartial, and well qualified to make judicious selections from the numerous communications which are no doubt contantly made to the Lyceum. It is too frequently the case, that journals are crowded with papers from those who happen to be in favour, no matter how tedious and uninteresting they may be. The members of this institution should constantly bear it in mind, that their reputation is inseparably connected with that of their "Annals," and that the public will judge of both by a common standard.

Medical and Philosophical Intelligence.

DOMESTIC.

ESSAY *on Salt, containing notices of the origin, formation, geological position, and principal localities; embracing a particular description of the American Salines, &c.* By J. VAN RENSSELAER, M. D. *&c.*

THIS Essay purports to have been delivered as a Lecture, before the New-York Lyceum of Natural History. In the compass of a few pages, is comprised an able sketch of the origin, formation, and geological position of salt, as it occurs in different parts of the world. A summary of its uses concludes the volume. In the arts, in agriculture, and the fisheries, and in most manufactures, salt is either directly or indirectly employed.

The part of the work which will be found perhaps the most interesting, is the description of the *American Salines*, and of these none seem more important, both from the strength of their brine, and the facility of transportation, than the Salt Springs at Onondaga, in our own State. These yield a bushel of salt to every fifty gallons of brine; and when it is recollected, that it requires three hundred and fifty gallons of sea-water, to produce a bushel of salt, the value of these springs may be appreciated. A mine of gold or silver would be perhaps of less real importance. The salt manufactured during the last year, from these springs alone, amounted to more than 600,000 bushels, and this quantity is augmenting every year. It is easy to foresee, that large towns must necessarily arise in the neighbourhood of such valuable sources of wealth, and villages will, at no distant period, cover a country which is now almost one continued swamp. Even now, the tide of emigration is rapidly directed to this point, and under its influence the country is rapidly clearing and settling. John Bartram, (the father of William Bartram,) published a tract entitled a "Journey to

Onondaga," 1751. The book is so rare, that it is believed a single copy is not now to be found in America. It would be a matter of some curiosity, to compare the present condition and appearance of the country, with its situation fifty years ago.

From the statements given by Dr. Van Renssalaer, it appears that 1,200,000 bushels of salt, are annually manufactured in the United States, of which the State of New-York alone furnishes more than one half—4,000,000 bushels are annually imported.

The Essay will well repay the perusal, and we may be permitted to congratulate the Society from whence this paper originated, on the appearance of such an interesting Lecture.

Onondaga Salt Works.—There has been read before the Literary and Philosophical Society of New-York, an elaborate analysis of the Onondaga Salt Springs, by Professor Macneven, of our University, from which we are permitted to make the following extract.

This water contains 7.4 of its weight of saline ingredients, and the strongest or fully saturated brine cannot contain more than $4\frac{4}{11}$; hence the Onondaga water appears to be nearly half saturated.

It consists in 100 parts dry salt—of

Sulphate of Potassa, - -	2.525
Muriate of Lime, - -	2.269
Muriate of Magnesia, - -	2.012
Muriate of Soda, - -	93.194
	100.000

The saline impurities are consequently no more than 7 per cent.; and when they exceed this amount it can only be owing to the accidental admixture of slime or dirt of some kind.

The saline impurities are mostly deliquescent, and could be easily drained away, by putting the salt, when taken out of the pans, upon inclined planes; or better still, by putting it into vats having double bottoms, the upper one being a strainer, and pouring on 7 per cent. of soft water, and drawing it off in two or three hours: this will leave the salt very pure.

State of the Asylum for the Relief of Persons deprived of their Reason; situated in the vicinity of Philadelphia.—The contributors to this institution have recently published their annual report of the state of this valuable institution, from which it appears that during the last year, forty-five patients have been under care at the Asylum, of whom twenty-eight were in the house, in March, 1822. Since that time seventeen have been admitted; eleven have been discharged; seven of whom were recovered; two much improved, and one without apparent improvement. One death has occurred from a decay, soon after admission. There remained in the House, third month, 7th, 1823, thirteen male, and twenty female patients; four of whom are recovered; three much improved; and the report further adds, that in the opinion of the directors, the condition of every patient has been really meliorated since admission.

We hope to be able, ere long, to furnish our readers with information concerning that magnificent establishment, the New-York Asylum for the Insane, situated at Bloomingdale.

Extract of a Letter to one of the Editors, from Dr. EBERLE, *of Philadelphia, dated July* 5, 1823.*

"Dr. McClellan has lately performed a very important surgical operation on a child six years old, the daughter of Mr. Martine Rice, of Philadelphia. The disease was an osteo-sarcomatous tumour of the lower jaw, involving the whole substance of the bone in front of its angles; occupying the cavity of the mouth, so as to protrude the tongue backwards over the pharynx; and extending downwards and forwards, so as to form an enormous projection before the neck. It originated, sixteen months ago, from a fall, which loosened several of the teeth, and contused the chin severely. Within the last few weeks it had increased rapidly, so that it not only impeded deglutition, but threatened speedy suffocation. The substance of the under lip was greatly extended

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* The Editors regret that this notice of Dr. McClellan's interesting operation was accidentally mislaid when the last number of the Journal was put to press.

and attenuated by the pressure of the tumour, which directed itself chiefly towards the left side of the throat. The skin appeared very vascular, with tortuous and enlarged veins; and numerous small arteries could be felt pulsating over the whole surface. The glands, however, appeared to be unaffected. Dr. McC. began the operation with the expectation of being obliged to secure the carotid artery of the left side, and he therefore extended an incision from the left angle of the lips downward and backward over the tumour to the sterno-mastoid muscle. By dissecting up the edges of the incision, however, he found that the parts could be removed without interfering with the great vessels, and he therefore contented himself with securing the facial artery of that side low down beneath the jaw The integuments were then dissected off entire from the surface of the tumour, until the sound bone was exposed underneath the right masseter muscle; the facial artery being secured on that side also, the bone was divided on both sides, just behind the last molar teeth, by means of the common metacarpal saw. The whole mass was then easily turned out of the mouth by dissecting between it and the lower surface of the tongue. The left submaxillary and an indurated portion of the sublingual glands were afterwards removed, and the integuments replaced as nearly as possible in their natural situation. A stuffing of lint maintained the prominence of the chin, while a luxuriant growth of granulations was filling up the space previously occupied by the bone. The parts are now (three weeks after the operation) perfectly healed, externally and internally."

Extract of a Letter to the Editors, from Dr. L. RING, *of Upper Red-Hook, N. Y. dated July* 11, 1823.

Mrs. Elmendorph, aged sixty years, had about three years ago a paralytic shock. The attack was marked with the following symptoms: sickness of the stomach, succeeded by vomiting, and a delirium, which continued about twenty-four hours, when her vomiting ceased, and her reason returned; at this time she discovered a loss of sensation, and the power of voluntary motion in her extremities. Connected with the above symptoms, she had a violent cough. She continued in this state about eighteen months,

when sensation was partially restored, but the power of voluntary motion still absent. She was also at this time constantly afflicted with convulsive motions of her lower extremities; stiffness of the joints. Her fingers were drawn backward, and were immoveable, with a considerable enlargement of their joints; she had repeated sharp pains darting through her extremities; in short, she was a perfect cripple, harassed with a most racking cough, which was frequently attended with discharges of blood from the lungs.

In this situation she lingered for more than a year, without any relief, except partial remission of pain at times, while under the influence of opium; but there was not the least prospect of her being restored to health.

About the first of October, 1821, I was requested to see her, and found her labouring under the above painful symptoms. In consequence of the absence of fever in her case, I was induced to consider the cough spasmodic, and the affection of her extremities nervous.

Having seen many reports in favour of the curative properties of Scutellaria in nervous complaints, I was induced to try its effects in this case. In order to ascertain the real virtues of this plant, I administered it without the addition of sulphur. She took three gills a day, fasting, of a strong decoction. For the first four days, it apparently increased the nervous irritation. She, however, by entreaty, continued its use; on the seventh day, she felt a partial relief. On the ninth day, the muscles of the extremities began to relax, her cough to abate, the stiffness of the joints began to subside, she walked tolerably well, her health was generally improved, and she rested without the use of opium; her appetite was much better, and she increased considerably in strength. From this time a change for the better was visible every day, and at the end of three weeks her health was so much improved, that she, who had not walked for more than a year without the aid of her cane, now had the entire use of her limbs, walked quite as well as is common with persons at her age; her cough was quite relieved; and she considered herself, as I did, quite cured; and continues to enjoy good health.

FOREIGN.

On the Therapeutical effects of Iodine, by Dr. Coster.—When reviewing, in the Archives Générales de Médicine, an Essay on Iodine, by Brera, entitled "Saggio Clineo sull' Iodio," Dr. Coster has offered some remarks on the successful employment of this substance, in some cases which he observed in the practice of Dr. Coindet of Geneva.

"Particular circumstances," says Dr. Coster, "having led me to remain for eight months at Geneva, with this distinguished practitioner, (Dr. Coindet,) I was enabled to observe accurately the good effects of iodine in enlargements of the thyroid gland, and in scrofulous tumours. M. Coindet first of all employed this medicine under the form of alcoholic tincture, and obtained very surprising effects from its administration in goître. It was not long before it was perceived that iodine did not act solely on the thyroid gland, but that it diminished the form and size of the mammæ. In some imprudent patients, who, under the idea that their cure would be hastened by it, secretly exceeded the dose prescribed by the physician, it produced a degree of irritation which induced marasmus.

"M. Coindet next tried the employment of iodine in friction on the tumour itself; and the success from the application was so great, that of nearly one hundred individuals affected with goître, whose cases I have collected, I may affirm that more than two-thirds were completely cured by it. The hydriodate of potass incorporated with lard was the form under which the iodine was first administered in frictions.

"Soon after these successful results, the iodine was employed in scrofula, in the same manner, viz. sometimes internally, and sometimes in the form of friction. I shall not affirm that the success was as constantly favourable in this latter disease as in the former, but it is certain that scrofulous tumours yield sooner to the action of iodine than to that of any other remedy at present known. When the tumours, whether of the thyroid gland, or of the lymphatic glands, are hard, and renitent, experience proves that the effects of iodine are much more prompt, when the fric-

tions are preceded by the application of leeches, and by submitting the patient to a demulcent regimen. Notwithstanding these precautions, however, it occasionally happens that the tumour remains stationary, although it may not be of the nature of those which are acknowledged to be incurable. A case of this kind having occurred to me, I tried the following experiment, which I merely relate here for the purpose of inducing practitioners to repeat it.

" A young man was affected with a goître, the size of which was, at least, equal to that of three puliet's eggs: it had been unsuccessfully treated, in the first instance by iodine in frictions, afterwards internally by the same substance, and finally by leeches, followed by fresh frictions. Some one gave me the idea of combining the action of the voltaic pile with that of the iodine, and it is known that the positive pole of the pile exercises an attractive action on iodine. From these data, I conceived that by making use of frictions with pure iodine on one side of the tumour, and applying the pole on the opposite side, the absorption would be more speedy, and the effects of the iodine on the tumour more sensible. In order, however, not to attribute to the iodine those effects which might be believed to be those of the electric action, I began by subjecting the patient, for eight successive days, sometimes to the stream of the pile, and at others to the action of sparks; but it was all in vain. I then began with the experiment. The tumour of the thyroid gland was placed twice a day, for the space of ten or twelve minutes, under the influence of the positive pole of the pile, taking care to change sides each time of using it; so that in the morning I made use of friction on the right side, and the action of the pile on the left; whilst in the evening I chose the opposite sides. At the end of four days, the size of the goître had diminished about four lines. On the tenth day it was reduced to one-third, and at the end of twenty days there did not remain the least trace of it.

" The quantity of iodine which I employed, was two grains to a scruple of lard. During the whole of this treatment no unpleasant symptom occurred; the skin had, however, a violet tint, but this disappeared in four or five days. I regret not having been able to repeat the same experiment, as no isolated observation is sufficient to establish a fixed rule."

M. Coster considers that this plan might possibly be successfully employed in scrofulous cases; but he agrees with M. Coindet, that if the lymphatic irritation become raised to the inflammatory state, which is marked by heat and redness in the tumefied glands, the iodine quickly occasions suppuration, which in scrofulous cases it is essential to avoid, from the cicatrix which is always produced by it. Under such circumstances, he considers it prudent to abstain from the use of iodine.—*Archives Générales de Médicine. Juillet*, 1823.

Vegetable Alkali from Rhubarb.—M. Nani, of Milan, states that he has discovered a new vegetable alkali in rhubarb; but he has not said much of its properties, and except its solubility in weak sulphuric acid, and precipitation by lime, no evidence of its alkaline nature is offered. Six ounces of rhubarb in powder were boiled for two hours in eight pints of common water, with four drachms of sulphuric acid; this was filtered, pressed, and the residuum reboiled with six ounces of water and two drachms of sulphuric acid; the fluid being again separated, the residuum weighed but two ounces. The united infusions were mixed by degrees with three ounces of quicklime, and from being yellow they became of a blood-red colour; after standing for a day the precipitate was filtered out, dried in the sun, and weighed six ounces. It was then digested at a high heat, with four pounds of alcohol S. G. 837 for two hours, filtered, and again digested with two pounds more of alcohol, which, when separated by a second filtration, was added to the first. Being put into a retort, five pounds of the alcohol were distilled off, and the rest of the liquor carefully evaporated to dryness. The residuum weighed two drachms, was of a red brown colour, with brilliant points throughout it. Its taste was sharp and styptic. It was soluble in water, and its odour like that of rhubarb. This preparation is recommended in pharmacy as being of constant quality, of convenient solubility in water, and deprived of its inert and ligneous matter; one or two grains are said to be sufficient for a dose.—*Bib. Univ.* xxii. p. 232, *and Journal of Sciences*, No. 31.

The efficacy of Oil in cases of Poisoning by Potass, by M. A. Chereau.—*Case* 1*st.* The grand-daughter of a copper-founder, when very thirsty, drank a glassful of a solution of potass, used for scouring metals. The proportion of this alkaline solution was about sixteen ounces of red American potass to a little more than two pints of water. The liquid was of a reddish colour, which at first induced a belief that it was a mixture of wine and water, which the workmen were using; she drank it with avidity, but soon experienced great heat in the throat, with violent pains in the stomach and abdomen. M. Chereau being called in, made her take at once 10 oz. of syrup of gum, and 4lbs. of oil of sweet almonds. Vomiting supervened; and when it seemed to stop, the mixture was repeated; the vomiting after this was renewed, and the patient felt herself relieved. Emollient drinks and oleaginous potions, administered by spoonfuls, subsequently removed all the alarming symptoms.

Case 2*d.* The child of a wine-merchant had drank by mistake some of the *aqua secunda* of painters, (a solution of potass in water.) Nearly 3 lbs. of oil of sweet almonds were administered at two different times, and relieved the unpleasant symptoms. Vomiting occurred, as in the first instance. It was remarked in this case, that the rejected liquid was of a whitish colour, with some density, and of a saponaceous appearance. It would seem that the oil does not only act in provoking vomiting, by the nausea which it occasions, but also that it combines with potass in the stomach.—*Bulletin des Travaux de la Société de Pharmacie de Paris. Juillet*, 1823.

On the employment of Electricity in the treatment of Calculous cases, by MM. Prevost and Dumas.—These philosophers have, in the course of their researches, thought on the practicability of operating on the calculus in the bladder, by electricity, so as either to extract it, or assist in reducing it to that state in which it could be voided without having recourse to an operation.

The modes of applying the electric current are two. It would be possible, in fact, to *extract* the calculus by means of a double sound communicating at one end with the bladder, and at the other with two vessels filled with water, into which the poles of the pile

should be plunged. This method, if practicable, would transfer the acids and bases of the calculus into the vessels, but it would require a battery of strong power, and probably, from the dispersion of the galvanic fluid, disturb the bladder, which, with other objections, make the method inapplicable. The other mode is, in place of endeavouring to extract the calculus, to aim rather at its disintegration, and bring it into so friable a state that it may readily be broken down, and pass out through the urethra.

A fusible calculus was submitted to the action of a pile of 120 pair of plates for 12 hours, the pile being recharged each hour. The calculus was placed in a vessel of pure water, and the platina wires from the poles of the battery, which also passed through the water, touched it in two points, distant about 6 or 8 lines. During the action, the phosphoric acid, and the bases separated at the poles, then re-combined and fell as an insoluble powder to the bottom of the vessel. At first the calculus weighed 92 grains, but was then reduced to 80 grains ; the treatment being continued for 16 hours more, the calculus became so friable, that the slightest pressure broke it into numerous crystalline grains, the largest not larger than a lentil, all of which would easily have passed the urethra.

The practicability of this mode of treatment is evident to those at all acquainted with physiological experiments. It is almost always possible to carry two conductors into the bladder, which, by means of a slight spring, shall have their extremities separated, so as to touch the calculus in two points. The voltaic current being passed, the calculus would be decomposed without the bladder being too much affected. To prove this, such a system of conductors were introducted into the bladder of a dog, and connected with a battery of 135 pair of plates. It was found that, the bladder being distended by warm water, the animal was not particularly disturbed, notwithstanding the conductors decomposed water with energy, and gave torrents of gas.

The following experiment was then made : a fusible calculus was fixed at the end of the sound, between the two conductors, and introduced into the bladder of a large dog, which was then filled with warm water. The conductors were then connected

with the battery. After some slight movements, the animal became calm, and remained quiet under the galvanic action for an hour. The sound being carefully withdrawn, the calculus was found decidedly to have undergone decomposition. This was repeated for six days, one hour night and morning, when the calculus had become so friable, as to oblige the discontinuance of the experiment. It had lost in weight like the former calculus. After some days' rest, the dog was killed, and the bladder examined ; its texture was just as usual, its appearance presented nothing particular, and when opened for the evacuation of the urine, its fibres contracted just as usual.

The innocuous nature of such a voltaic current on an organ, at a certain distance from it, may be readily ascertained in the following manner: place the conductors and calculus in the water, as in the first experiment, then pass the current, and also dip the tongue into the water ; it will be found that whilst the calculus is undergoing rapid decomposition, the tongue, sensible as it is to the influence of electricity, will scarcely be able to ascertain its presence, when not more than 15 or 18 lines from the calculus.

It is evident, that this process will be of no avail in the treatment of calculi, composed of, or containing much, uric acid ; and MM. Prevost and Dumas do not think of recommending the process in cases even where it promises help, until farther investigation has lessened the difficulties, and illustrated the points which remain untried. They have introduced calculi into the bladders of dogs ; and when the wounds have cured, propose practising on them, that the best method for the human being may be ascertained. It will be requisite to ascertain, by experiment, what fluid will be best for the distension of the bladder ; and it is indispensable to find means of ascertaining accurately the nature of the calculus whilst in the bladder. They are encouraged against these and other difficulties, however, by having already ascertained, at the Jardin des Plantes, that the action of the pile causes no bad effects on the bladder ; and also that the addition of a certain quantity of nitrate of potash to the fluid for injection, renders the decomposition more rapid and sure, so that the hard and compact phosphates give way in an analogous manner to those that are porous.—*Ann. de Chim.* xxiii. 202.

On the Seat of Extravasation in Hemiplegia.—Messrs. Feville and Pinel-Grandchamps give the following account of an old woman, who died at the Salpêtrière. She had been affected for many years with complete paralysis of the upper and lower extremities of the left side. The remains were found of an old extravasation of blood in the right hemisphere of the brain, in the medullary space between the optic thalami and the corpora striata, involving both these parts equally. Messrs. Feville and Pinel-Grandchamps laid this case before the Academy of Medicine, as tending to confirm their former observation on the seat of movement in both members. They are of opinion that the seat of motion of the upper extremity is situated in the optic thalami, and that of the inferior extremity in the corpora striata. In a case where the arm and leg are both struck with palsy, the optic thalami and corpora striata must, according to their views, be both alike disorganized. In the Number of Majendie's Journal for April, M. Serres likewise maintains the opinion that the cause of the movements of the upper extremities resides in the posterior part of the hemispheres, and the cause of movement of the lower limbs in the anterior part of the brain.—*Brande's Journal*, No. xxxi.

Hernia through the Diaphragm.—M. Jules Cloquet has related a case of this nature, of recent occurrence. The subject of his observation was a man of about forty-five years of age, of healthy appearance, who had the thorax strongly compressed from before backwards, between the wheels of two carriages. The patient, who was carried to the hospital of St. Louis immediately after the accident, complained of intolerable pain in the chest. The respiration was difficult and interrupted; the pulse accelerated and intermitting; the face swollen, of a purple colour, and having a very peculiar expression of pain. Antiphlogistic remedies were employed in their fullest extent: nevertheless, the patient died thirty-six hours after the accident had occurred. On examining the body, the soft parietes of the thorax presented no lesion, but several ribs were fractured; the diaphragm was considerably torn at the left side, the rupture extending towards the centre; the pericardium was lacerated in all its anterior and inferior portion; the whole of the stomach, and the greater part of the colon, had

passed into the left cavity of the chest, and was situated in immediate contact with the heart and lung: this last was pressed back upon the vertebral column. The cavity of the pleura was filled with blood.—*Ibid.*

Urée in the Blood.—MM. Prevost and Dumas of Geneva, have published an account of some experiments on the blood, which formed the subject of a memoir read before the Society of Physics and Natural History of that town, in 1821. On a future occasion we intend to give a more detailed account of this paper: at present, we shall only mention, that the kidneys of various animals were removed, and the blood subjected to careful analyses, when a considerable portion of urée was discovered, which differed but very slightly from that found in the urine of some animals. "The physiologists (say the authors) who may be curious to satisfy themselves of the truth of the facts mentioned in this memoir, will not experience much difficulty. Five ounces of the blood of a dog, which has lived without kidneys for only two days, afford more than twenty grains of urée; and two ounces of the blood of a cat, under the same circumstances, give more than ten grains. These quantities are perfectly appreciable by the least experienced chemists. We would not advise them to try on rabbits, because they do not resist the operation so well." M. Vauquelin, whose name ranks so high as a chemist, repeated these investigations along with M. Segalas, and concludes from them that urée acts as a very active diuretic.—*Annales de Chimie, &c. Mai.*

Carbonic and Muriatic Acids of the Atmosphere.—According to M. Vogel, scarcely any carbonic acid can be found in the atmosphere over the sea two or three miles from shore, even barytes water almost fails to detect it. On the other hand, various Dutch chemists have pointed out the existence of muriates, and even free muriatic acid in the atmosphere. The latter seems most decided near the sea-shore, and is most abundant in dry weather. At Amsterdam it appeared to be particularly abundant; but is attributed in part, at least, to the action of sulphuric acid formed by the combustion of coal and peat, which, acting on the muriates, set their acid free.—*Brande's Journal*, No. xxxi.

On the Use of Sugar in Cases of Poisoning by Lead.—The following fact has been addressed by M. Reynard to the *Societe des Sciences* of Lisle. During the campaign of Russia several loaves of sugar had been enclosed in a chest containing some flasks of extract of lead. One of these flasks having been broken, the liquid escaped, and the sugar became impregnated with it. During the distresses of the campaign, it was necessary to have recourse to this sugar; but far from producing the fatal accidents which were expected, the sugar formed a salutary article of nourishment to those who made use of it, and gave them a degree of vigour and activity which was of the greatest service in enabling them to support the fatigues of marching. "Might not," says M. Reynard, very properly, "the employment of sugar be adopted for combating the effects of the sub-acetate of lead, instead of the other soluble salts recommended by M. Orfila, (the sulphate of soda or of magnesia,) which are not always ready at hand?"—*Journal d'Agriculture et Sciences accessoires.* 1823.

Carditis caused by Poisoning, with Arsenic.—A man ate a bit of bread, and a sausage and a half, poisoned with arsenic. In two or three hours he was seized with vomiting and diarrhœa. The usual symptoms succeeded, and he died 48 hours after the fatal repast. The whole body was rigid. The stomach was natural externally, internally of a deep red colour, not removed by washing or scraping, and near the duodenum there were several roundish specks, varying in size from that of a sixpence to that of a crown piece, of a brownish hue, but whether ecchymoses or eschars, could not be determined. The villous coat was swelled there, but not feeble. The œsophagus was natural. The duodenum and the upper part of the jejunum had a deep red colour, and all the other intestines were strongly injected. The left cavities of the heart were of a mottled red colour; and in the ventricle, especially on its *columnæ*, there were many small crimson specks, which penetrated into the substance of the parietes. The right cavities had a deep reddish-black colour, and the columnæ of the ventricle showed specks like the ventricle, but less numerous or distinct. The aorta and other vessels were natural. Arsenic was found by analysis in the remains of the suspected food, in the vomited matter, and adhering to

the inside of the stomach, *though the man had vomited incessantly for more than forty hours.* The author adds, that he had previously found in experiments with arsenic upon animals, that the contractility of the heart was destroyed, and its tissue often inflamed.—*Orfila, Arch. Gen. de Med. Fevr.* 1823.

On the Cure of Intermittents by Frictions with the tartarized Antimonial Ointment on the Epigastrium.—During the winter of 1815, Dr. Pommer had occasion to treat numerous cases of intermittents occurring in the army of Wurtemberg, cantoned at that time on the Loire and Allier. He frequently found the cinchona to fail in producing its usual effects, and observed that the fever generally disappeared on the eruption of pimples or pustules on any part of the body. Taking advantage of this observation, he was induced to try the effects of artificial eruptions in its cure. With this intention he employed the common tartar emetic ointment, and prescribed it to be rubbed upon the abdomen and epigastric region. The first two individuals whom he subjected to this treatment recovered immediately upon the maturation of the pustules which were thus produced. This induced him to use the same means in a great number of cases then under treatment, and in those which subsequently occurred, and in all the cases with similar success. Dr. P. employed the same mode of cure in those varieties of agues which were complicated with nervous with the same benefit.—*London Medical Repository, Nov.* 1823.

METEOROLOGICAL OBSERVATIONS

FOR SEPTEMBER, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 A M	2 P M	9 P M			
1	30 18	30 32	30 44	74	81	69	nw	se	se		698	variable
2	30 50	30 55	30 55	65	78	62	sw	se	se		680	clear
3	30 50	30 44	30 31	67	82	72	se	s	sw		710	do
4	30 14	30 05	30 12	75	94	74	sw	w	sw	—.01	692	variable
5	30 20	30 20	30 14	74	84	70	ne	nw	sw		674	clear
6	30 10	30 10	30 10	70	92	74	sw	sw	sw	—.02	700	cloudy
7	30 10	30 04	29 93	74	76	68	s	ne	ne	—.90	725	do
8	30 05	30 08	30 10	56	65	62	ne	ne	ne		714	do
9	30 12	30 12	30 18	58	68	61	ne	ne	ne		698	do
10	30 23	30 25	30 25	62	78	60	ne	s	se		716	variable
11	30 25	30 25	30 25	64	69	62	ne	ne	ne		754	cloudy
12	30 25	30 25	30 20	64	78	66	ne	se	e	—.29	772	variable
13	30 20	30 20	30 14	62	75	68	e	se	se	—.30	770	cloudy
14	30 08	30 10	30 18	67	76	68	n	nw	nw		740	do
15	30 27	30 30	30 30	62	80	64	nw	nw	sw		734	do
16	30 30	30 30	30 24	60	69	68	sw	sw	se	—.61	756	do
17	30 19	30 1	30 00	65	70	72	se	s	sw	—.11	801	do
18	29 97	29 97	29 99	72	85	74	sw	sw	sw		794	do
19	30 10	30 18	30 28	66	74	65	nw	nw	w		754	clear
20	30 20	30 20	30 20	71	83	70	sw	sw	sw		706	cloudy
21	30 20	30 25	30 30	56	54	49	nw	nw	nw		680	do
22	30 33	30 33	30 38	51	68	48	nw	nw	nw		658	clear
23	30 43	30 46	30 36	53	60	54	ne	ne	ne		650	cloudy
24	30 30	30 24	30 24	50	62	58	ne	ne	ne		660	do
25	30 24	30 24	30 19	58	60	58	n	n	n	—.19	680	do
26	30 16	30 16	30 20	58	70	58	n	nw	nw		692	do
27	30 22	30 32	30 18	50	69	52	n	s	s		686	do
28	30 14	30 10	30 10	52	60	50	nw	nw	nw		670	clear
29	30 10	30 10	30 24	50	62	42	nw	w	nw		654	cloudy
30	30 40	30 36	30 36	47	62	49	nw	nw	sw		648	clear

The quantity of rain which fell in this month is 2 inches and 43—100ths.

The weather of this month was for the most part pleasant. There was a great variation of the thermometer on the 4th; at 7 A. M. it stood at 75°, at 2 P. M. 94°, at 9 A. M. 74°; at half past 2 P. M a thunder shower, which lasted about 4 minutes; a calm succeeded, and the atmosphere became very sultry and oppressive. On the 6th, at 4 A. M. thunder and lightning, accompanied with rain. At intervals on the 7th, thunder, &c and heavy rain, with a strong wind. Vespertine lightning on the 3d, 4th, 5th, 6th, 7th, 18th, and 20th. Fog on the mornings of the 3d and 7th The sun was obscured on the 7th, 8th, 17th, 21st, 24th, and 27th. The nights were generally cloudless and starry.

METEOROLOGICAL OBSERVATIONS

FOR OCTOBER, 1823.

Made at the New-York Hospital, by Richard Pennell, M. D.

	Barometer.						Thermometer.			Winds.			Rain Gauge	Hygrometer.	Weather.
	7 AM		2 PM		9 PM		7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30	36	30	36	30	36	47	70	56	sw	sw	sw		642	clear
2	30	36	30	36	30	36	53	70	60	sw	sw	sw		645	do
3	30	38	30	38	30	32	57	77	60	sw	sw	sw		643	do
4	30	28	30	24	30	16	62	74	64	sw	sw	sw	—.31	682	cloudy
5	30	10	30	06	30	04	64	73	60	cal.	sw	nw	—.99	712	do
6	30	12	30	22	30	30	63	68	53	nw	n	n		685	variable
7	30	30	30	26	30	20	53	64	54	n	se	se		686	do
8	30	16	30	16	30	08	53	61	61	se	se	sw		712	cloudy
9	29	90	29	86	29	80	60	70	60	sw	sw	w		712	do
10	29	94	29	94	30	16	56	61	48	w	nw	nw		680	variable
11	30	33	30	33	30	38	49	61	43	nw	nw	nw		662	clear
12	30	41	30	32	30	24	47	62	47	cal.	nw	nw		666	cloudy
13	30	16	29	86	30	90	52	64	59	nw	sw	sw		669	do
14	30	22	30	22	30	30	49	62	46	nw	nw	nw		645	clear
15	30	33	30	28	30	22	48	60	54	ne	s	s		660	do
16	30	16	30	00	29	86	57	60	56	cal.	ne	ne	—.92	687	cloudy
17	29	77	29	80	29	86	54	58	48	nw	nw	nw		680	do
18	29	98	30	00	30	16	41	49	37	nw	nw	nw		665	do
19	30	30	30	30	30	30	35	58	45	nw	nw	nw		662	clear
20	30	36	30	36	30	26	46	62	52	nw	s	s		674	do
21	30	18	30	10	30	04	50	64	54	cal.	sw	nw	—.11	687	do
22	29	87	29	94	30	00	42	56	43	nw	nw	nw		675	do
23	30	00	29	90	29	90	47	59	53	sw	sw	nw		673	variable
24	29	89	29	89	29	89	50	59	48	nw	nw	e	—.15	669	cloudy
25	29	89	29	76	29	84	49	46	47	e	n	n	1.10	668	do
26	29	98	30	00	30	00	45	44	41	nw	nw	nw		665	do
27	30	00	30	00	30	00	40	47	43	nw	n	n	— 11	671	do
28	30	00	30	00	29	96	45	62	44	nw	nw	nw		675	do
29	29	90	29	90	29	94	44	54	46	nw	nw	nw	—.07	685	do
30	30	07	30	07	30	16	40	50	41	n	n	n		674	do
31	30	27	30	30	30	22	43	52	42	ne	ne	ne		681	do

The quantity of rain which fell this month is 3 inches and 76—100ths.

The weather, from the 1st to the 4th, was remarkably clear and agreeable: wind from the south-west. On the 4th it became cloudy at 6 P. M., when we had a considerable quantity of rain. Much rain also fell on the 5th, 16th, and 25th, and small quantities on the 21st, 24th, 27th, and 29th. A few drops fell at 6 P. M. on the 13th, from a Nimbus; at 10 P. M. a gale of wind from the south-west. On the 25th, thunder, lightning, hail, and heavy rain, from 10 to 12 A. M. On the 26th, a few flakes of snow fell at 11 A. M., which instantly melted. On the 28th at 5 P. M. the sun looked red, setting in a clear sky, indicating the approach of Indian summer. The sun was obscured on the 12th and 26th, and part of the 4th, 8th, 9th, 16th, 18th, 25th, 27th, and 29th.

METEOROLOGICAL OBSERVATIONS

FOR NOVEMBER, 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30 10	30 04	29 89	45	48	44	ne	ne	ne	—.67	692	cloudy
2	29 76	29 77	30 08	40	44	34	nw	nw	w		679	clear
3	30 23	30 30	30 30	36	50	38	w	w	sw		672	cloudy
4	30 30	30 30	30 30	34	49	40	sw	sw	nw		668	do
5	30 27	30 33	30 38	39	41	34	nw	nw	ne		666	do
6	30 40	30 40	30 32	28	42	40	ne	ne	ne	—.28	674	do
7	30 20	30 20	30 22	40	48	36	ne	ne	ne	—.02	674	do
8	30 30	30 28	30 30	58	50	39	n	n	sw		674	clear
9	30 30	30 30	30 26	41	58	45	sw	sw	s		689	variable
10	30 21	30 18	30 16	49	61	52	s	s	sw	—.04	702	cloudy
11	29 90	29 98	30 12	46	48	36	nw	nw	nw	—.24	685	do
12	30 26	30 26	30 18	34	44	36	nw	nw	sw		672	variable
13	30 10	30 04	30 06	38	50	37	sw	w	se		665	do
14	30 10	29 98	29 91	32	54	46	se	sw	sw		665	do
15	29 88	29 88	29 94	41	52	36	sw	sw	nw		654	clear
16	30 20	30 20	30 22	32	46	33	nw	ne	ne		648	cloudy
17	30 26	30 26	30 26	30	40	27	ne	ne	n		640	do
18	30 26	30 32	30 32	36	36	26	n	n	nw		636	do
19	30 48	30 44	30 40	31	40	36	w	w	sw		638	do
20	30 40	30 36	30 21	33	51	38	sw	sw	sw		650	do
21	30 11	29 96	29 84	40	50	48	sw	sw	sw	—.15	667	do
22	29 70	29 79	29 87	50	56	41	nw	nw	nw		656	do
23	30 00	30 06	30 16	34	51	36	nw	nw	nw		642	clear
24	30 24	30 24	30 24	30	44	30	nw	n	n		642	do
25	30 30	30 16	30 04	32	37	36	n	ne	n	1.23	664	cloudy
26	29 90	29 90	29 90	40	52	42	n	ne	ne	—.01	678	do
27	29 90	29 90	30 10	44	49	40	w	w	nw		665	do
28	30 38	30 44	30 51	43	42	25	nw	nw	nw		660	do
29	30 74	30 68	30 60	24	32	28	nw	nw	nw		656	clear
30	30 60	30 32	30 3	23	40	33	nw	n	n		655	do

The quantity of rain which fell this month is 2 inches and 64— 00ths.

The weather, at the commencement of November, was mild. On the morning of the 4th, there was ice three-fourths of an inch thick. The ground and house-tops were covered with hoar-frost on the morning of the 6th. Thick fog on the 10th, 26th, and 27th. Sun obscured on the 1st. 7th, 11th. 25th, and greatest part of the 21st. Snow fell two inches deep before sunrise on the 25th, and at 9 A. M. it commenced raining, the temperature increased, and by the next morning the snow had all disappeared.

TO CORRESPONDENTS.

Through the politeness of Dr. Pascalis, we have received from the Editors, the Prospectus of a new medical journal, about to be commenced at Bordeaux, in France, to be entitled "Journal Médical de la Gironde, redigé par une Société de Medicina et de Pharmaciena." This journal is to appear monthly, and will be devoted to the three following objects:

First. The publication of original memoirs, and of practical observations.

Secondly. The critical analysis of select works, both domestic and foreign, and interesting extracts from other journals.

Thirdly. Medical and physical varieties: such as accounts of the sessions of learned societies, announcing of prize questions, biographical notices, correspondence, &c. &c.

It is with pleasure that we accept the proposal for an exchange of Journals.

Our Correspondents are requested to forward their communications at least one month previous to the stated time at which the Journal is published.

Our next number will contain reviews of Dr. Eberle's Treatise on the Materia Medica, and Dr. T. R. Beck's work on Medical Jurisprudence.

ERRATA.

Vol. I. p. 147. line 15. For *Dawson* read *Davison.*
p. 147. Second note. For *State Papers* read *State Paper.*
Vol. II. p. 181. line 7. For *nothing else* read *something else.*
p. 181, line 3. For *given* read *grim.*
p. 253. Column of 1822. Mean temperature at 2 P. M. for 46 00 read 56.00.
p. 253 Lowest height of the thermometer, for 5 14 14 read —5 —14 —14.
p. 361. line 8. Omit *themselves*
p. 375. Note. After "eighteen grains of tartar emetic," read "dissolved in half a pint of water, a table spoonful to be taken after each time of vomiting!"

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END OF VOLUME SECOND.

J. SEYMOUR, Printer, John-street, New-York.